

# Trail Log 2000-2004

## Holmes Rolston, III

### Summary

2000 Antarctica, January February

Tierra de Fuego, Argentina, Drake Passage, Half Moon Island, Port Lochroy, Peninsula, Lemaire Channel, Hovgaard Island, Bismark Strait, Bellinghausen Sea, Amundsen Sea, Ross Sea and Ice Shelf, Mt. Erebus, McMurdo Station, hut from Scott's *Terra Nova* expedition, Cape Bird, Cape Adare, Auckland Islands, Christchurch, New Zealand

Yellowstone and wolves in winter, Old Faithful in winter

Congaree Swamp, South Carolina; Bibb County Glades, Alabama; Prairie State Park, Missouri.

Backroads China, May. Kunming, Yunnan Province; Li Liang, Stone Forest; Dali; Erhai Lake; Lijiang; Tibetan borderlands; Tiger Leaping Gorge, Yangtse River; Shudu Gang Lake;. Chengdu, Sichuan Province; Dujiangyan City; Wulong Panda Center and Reserve.

Scotland and Ireland. June-July. Shetland and Orkney Islands; birding on North Sea coast below Aberdeen. Cairngorms; Conference and tour in Ireland..

Yellowstone, teaching Environmental Ethics; Absaroka/Beartooths, backpacking, Bob Marshal Wilderness, trip aborted by fires, riade out over Gateway Pass, and Crazy Creek, July-August.

Brazil: Campo Grande and Pantanal. November. II Congresso Brasileiro de Unidades de Conservacao (Second Brazilian Congress on Conservation Areas). Fazenda Rio Negro and Pantanal, tapirs.

2001.

Churchill, Manitoba, and northern lights, March. Asheville, North Carolina, and Mt. Mitchell. Ocala National Forest, Florida. Red Rocks and Llamas, llama packing, Escalante Canyon, Utah. Guam and Inter-Pacific Science Congress.

Mt. Zirkel Wilderness, Colorado, backpacking. Wycliffe College, Oxford, England. Satulah Mountain, Highlands, North Carolina. Rocky Mountain National Park, Mirror Lake, backpacking. Pawnee Buttes, Colorado

2002.

Wolves, Yellowstone National Park, March. Fossil Track State Park, Texas. Cranberry Glades, Cranberry Botanical Area, West Virginia. Backpacking, Lone Eagle Peak and Crater Lake, Indian Peaks Wilderness, Colorado.

Yellowstone Institute, Lamar Ranch, teaching Environmental Ethics, and backpacking Beartooth Absaroka Wilderness.

Spain, south Coast, Gibraltar, Tangier, Morocco and International Society for Science and Religion. Granada, Alhambra Palace. Edinburgh and Ifgene Conference, Royal Botanic Gardens.

Woolly mammoth fossils, Fort Collins area. Captured mountain lions, Colorado Division of Wildlife, Wildlife Research facility.

2003.

Texas Hill Country, River Region. Rolston receives Templeton Prize from Prince Philip in Buckingham Palace, May 2003. Arches National Park, with philosophers.

Ethiopia and Uganda. Gorillas and chimpanzees in Uganda.

Backpacking, Bear Lake to Grand Lake, Rocky Mountain National Park.

Bob Marshall Wilderness, North Chinese Wall, July 2003.

2004.

NASA Johnson Space Center, Houston, and moon rocks. UK Templeton Lecture tour, Oxford dinner with Roger Bannister, four-minute mile. Aberdeen, Scotland, Stonehaven and Dunottar Castle.

Taiwan, March 2004. Conference, Taipei. Fu Shan Rain and Mist Forest. Macaques, barking deer. Yuan-yang Lake Nature Reserve. Taroko National Park. Chin-Hsin-Tan, Seven Star Lake. Visit to Bunun, Bei-Nan, Pei-Wan tribal areas. Baishan Cave area. Guandu Nature Park.

Teaching, spring term, Washington and Lee University. Lexington, VA, and visits, hiking, in surrounding Shenandoah Valley. James River Face Wilderness.

Backpacking, Rocky Mountain National Park. James Peak Wilderness, Colorado Orange City, Iowa, and visits nearby in South Dakota, Oak Grove State Park.

Yosemite National Park, and California Bar Association, Environmental Law Conference, fallen Wawona tree. University of Virginia, Charlottesville, Law School, Med School, and Jefferson Monticello gardens.

## Trail Log 2000

January 1, 2000. The new millennium!! Took a walk with Jane up the Spring Creek Trail, mild day. There was a little Erodium in bloom! Mild winter so far.

Antarctica continued next page.

Antarctica  
January 27-February 21, 2000  
with Gray and David Hampton

General notes.

Antarctica is the least known part of the planet, at least above ground and water. The continent is 98% covered with ice, up to 10,000 feet thick. The bedrock under the ice is mostly in East Antarctica. Most of West Antarctica is really below sea level. If the ice melted, it would be reduced to three islands, though if the ice melted the water would rise substantially all over the world and it is somewhat difficult to say where sea level would be. Around 70% of the world's fresh water is here, iced up, over tens of thousands of years, though the continent averages only about a foot of snow a year, some of it crystallizing out of thin, clear air. Another source says 90% of world's fresh water is ice, and 90% of ice in world is in Antarctic, and 80% of fresh water in world is here.

East Antarctica is pre-Cambrian granites, somewhat like the Canadian Shield.

There is a range of Trans-Antarctic mountains, sedimentary rocks from the Cambrian.

West Antarctic has sedimentaries from the Permian to Devonian/Cretaceous, folded and faulted. These are really a continuation of the Andes.

The Scotia Arc goes under the Drake Passage.

Much of the Ice Sheet is featureless.

The annual precipitation in the interior of the continent is less than in the Sahara. Elliott, p. 104

Ice accumulates about one foot or so a year. Ice pressures forces an ice creep of perhaps 30 feet a year. Most flows a few meters a year down deeper into the ice sheet and out toward the margins.

Glacier ice reaches the sea and starts to float and breaks away, and floats off. This is the origin of all the icebergs. At several places, a number of glaciers flow together and into the sea and make up an ice shelf, such as the Ross Ice Shelf.

The average annual temperature is  $-10^{\circ}\text{C} = +14^{\circ}\text{F}$

The record low temperature is  $-89.2^{\circ}\text{C} = -128.6^{\circ}\text{F}$ , recorded July 21, 1983 at Vostok.

Arctic means "bear". The North Pole star was in the constellation, Ursa Minor, the Small Bear.

"Vostok" means "east" in Russian, as in Vladivostok.

Antarctica is substantially colder than comparable latitudes north.

The white continent reflects 90% of solar radiation, while in the Arctic, the dark polar water absorbs a lot of heat.

The south magnetic pole is over water now, though earlier it was over ice. The south magnetic pole

has shifted 800 km. in less than a century. Campbell, Crystal Desert, p. 197

There are two Longterm Ecological Research project sites in Antarctica. One on the Antarctic peninsula. The other is in McMurdo Dry Valleys, one of the few areas in Antarctica where the geology is exposed and where unique microorganisms have evolved. Of interest because here life approaches its environmental limits. The Dry Valleys in Victoria Land are ice free valleys. The land at their heads is high and blocks the ice, and the climate today is too dry to generate glaciers.

The U.S. program is at three places.

1. Palmer station, which we later passed.
2. McMurdo, which we visited.
3. South Pole station.

Lake Vostok is the largest, deepest lake in Antarctica, about the size of Lake Ontario. The lake is fresh, liquid water under a layer of ice three to four kilometers thick, isolated from the atmosphere for a million years. There are several liquid lakes in Antarctica. High pressure may keep the water liquid at higher temperatures. No drilling has yet penetrated to the water, but drilling has found bacteria in ice close to the lake, indicating that the lake is a microbial ecosystem, life at its limiting extremes. Some think the ice-water environments on Jupiter's moons Europa and Callisto may be similar; life in one might be some evidence for possible life in the other.

The Russians have stopped drilling, lest they contaminate the lake with the freon and aviation fuel they use as antifreeze when drilling.

Vincent, Warwick F., "Icy Life on a Hidden Lake," Science 286(1999):2094-2095, and accompanying articles. On hand.

Antarctic Treaty, 1959, originally 12 signatories, now signed on to by 38 nations representing 90% of the world's peoples. Antarctic Treaty Consultative Parties (ATCP's). Though see later. Seven nations have made territorial claims.

Three agreements subsequently:

- (1) Agreed Measures on Conservation of Antarctic Fauna and Flora, 1964.
- (2) Convention for the Conservation of Antarctic Seals, 1972, CCAS, Pronounced C Cass.
- (3) Convention on the Conservation of Antarctic Marine Living Resources, 1980. CCAMLR. Pronounced Cam Lar

Convention on the Regulation of Antarctic Mineral Resource Activities. CRAMRA. Pronounced C Ram Rah. Mineral activities were to be safe, clean, and monitored. But this one never passed. The Australians and French vetoed it, and it led to:

The Madrid Protocol. Protocol on Environmental Protection to the Antarctic Treaty, 1991.

This requires a comprehensive environmental evaluation (CEE) in Annex I, and Article 85 of the Protocol, for tourist groups.

This is an example of the difficulties of securing environmental protection in a decentralized world of sovereign states.

The Treaty privileges economic and political interests over environmental ones.

State-oriented, competitive, zero-sum game. Other actions besides states might have more say, such as scientific groups, or environmentalist groups.

precautionary principle

intergenerational equity.

the challenge of an alien landscape

the crystal desert

Antarctica is no environment for which I am likely to have any hardwired biophilia.

Peninsula map:

Antarctic Peninsula Ecomap.

Zagier and Urruty Publications, Buenos Aires. zagier@cuidad.com.ar ISBN 1-879568-21-7. Later, managed to get a copy.

Jan. 27, Thursday. Left home 8.45 a.m. Left Denver 12.30 flight to Miami, on an Airbus! Stayed in Wyndham Miami Airport Hotel. Met Gray on the limousine to the hotel. David was already at the hotel.

Uneventful evening.

Jan. 28, Friday. Breakfast in hotel. Walked around the edge of a golf course. 3.30 p.m., bus shuttle to the airport.

8.00 p.m. Takeoff delayed. We have 10,000 pounds too much gear and supplies on board. Not the passengers' baggage, but stuff being sent to the ship. Delayed 1 1/2 hours while they figured it out. Lockheed plane, a charter flight.

We had bulkhead seats, but were nevertheless rather cramped. 8 hour flight, overnight, to Buenos Aires.

Jan. 29, Saturday. Landed in Buenos Aires and had to get off to go through customs. Took about two hours.

Flight to Ushuaia, Argentina. Pronounced something like: you sch wi yuh. Long i. Or you sch wa yuh. Sometimes a long a sound.

Tierra del Fuego, the land of fires. From campfires that the early sailors saw.

The town is 92,000, in a dramatic setting, jagged glacial peaks rising to 1500 meters. Snow patches on the summits.

The airstrip was expanded 4-5 years ago to permit planes this large to land.

We were bussed to the ship, the Marco Polo. There were several cargo ships in port, ours the only cruise ship. According to reports on ship, one man had forgotten his passport and he had to fly back to the U.S. and cancel the trip. But how did he get out of the U.S.?

Cabin 502 for Gray and me, and David has one down the hall. We were upgraded and have 1 1/2 as much floor space as we paid for!

Marco Polo was originally a Russian ship, sailed from Montreal to Leningrad (St. Petersburg), and was bought after the breakup of the Soviet Union. It has ice-strengthened hulls, though is not an icebreaker.

Met the crew, expedition leaders, etc.

Expedition leader is Nigel Sitwell. Led over 40 cruising expeditions to Antarctica. Writer, editor of British magazine, Wildlife, for many years.

Assistant Expedition leader is Peter Carey, a biologist, American living in New Zealand. Studied skuas, Adelie penguins, and fishes in Ross Sea area.

Capt. Dick Taylor. 28 years in Coast Guard, for 12 years on icebreakers in Arctic and Antarctic.

Liz Cruwys, British biologist, wife of Beau Riffenburgh.

Peter Hillary. He has been on thirty Himalayan expeditions. Skied overland in 1999 to South Pole. His father, Sir Edmund Hillary, has often been on earlier Marco Polo cruises.

Bill Kearns. U.S. Navy pilot in 1946-47, plane crashed. He and six others survived, two weeks in the wreckage. Correspondent for Business Week and Time magazine.

Malcolm Macfarlane. New Zealand. Managed New Zealand's operations in Antarctic.

Beau Riffenburgh. History, Cambridge, and Scott Polar Institute. American, editor of Polar Record. 18 books, especially on explorers, dymythologized. Also a football fan and writer.

Edith "Jackie" Ronne. First American woman to set foot in Antarctica, wife of Finn Ronne, Finnish/American explorer.

David Wilson, great nephew of Dr. Edward Wilson, who died with Captain Scott and his party on return from South Pole in 1912. Ph.D. in philosophy. Ornithologist.

Scott Hanson, artist.

We go ashore in Zodiacs, inflated motorboats, developed by Jacques Cousteau. Zodiacs require no docks, and there will be none where we often put in. Though there are small docks at some of the scientific stations. Use of the tenders (life-boats) requires some sort of dock to land.

There is a helicopter for ice recognizance.

They have to get a permit from the EPA to do this trip, because the ship is U.S. owned.

The ship is usually a cruise ship, and only makes two Antarctic trips a year. So it has a considerable troop of performers and musicians, who "come with" the ship.  
U.S. Antarctic Conservation Act 1978.

Wildlife has the right of way. Stay 15' away. Don't touch or feed them.

Jan 30, Sunday. Day at sea in the Drake Passage. The Drake Passage is 1,000 km across, 620 miles wide, from the tip of South America to the start of the islands of the Antarctic peninsula.

The ship is rolling and pitching moderately.

Cape Horn.

Antarctica begins invisibly at 60° S politically. 60° S gets in the whole continent, including the Peninsula. But the Antarctic circle does not get in all the Peninsula.

Or, better, invisibly and biologically at the Antarctic convergence, where water temperatures below drop. More later.

Lecture on penguins. Penguins in the Southern hemisphere occupy something of the same niche that puffins do in the Northern hemisphere, though puffins can still fly.

The knees are inside the body of the penguin, and the body comes down to the ankles. They fly through the water, as it were. The propulsion is from the flippers (wings), not from the feet, which are used for steering.

Penguins have the densest feathers in the world.

There is a brood patch, where the feathers break to let them warm the eggs. Both males and females have it. Else they could not keep eggs warm enough to hatch them.

The Emperor penguins breed in winter, rather unusual.

King penguin - not where we will be

Chinstrap - seen later

Gentoo - seen later

Adelele - seen later

Skuas eat the chicks, if they can.

Penguin, a Welsh term for white head, originally used for the Great Auk.

petrel - name is from St. Peter, the bird walking on water.

Noon Bridge Report:

located 57° 46' S. We have sailed so far 213 nautical miles, average speed 17.8 knots. We will reach the Arctic convergence in three hours at about 3.00 p.m. Water temperature 45° F = 5.0° C. Air temperature 45° F = 7° C. Moderate sea. Sunrise 4.27 a.m.

We crossed the Antarctic convergence about 3.00-3.30 p.m. The water temperature dropped on a chart by about 2° C = 5-6° F, that is, from 5.5° C to 2° C. The drop began at 58° 31' S.

This is "the longest and most formidable biological barrier on Earth." Campbell, Crystal Desert, p. 26.

Seals, pinnipeds, or "winged feet" animals. Their ancestors were once on land entirely.

There is no hunting of seals south of the convergence.

(1) Crab eater seals eat krill. Seen later. Most abundant seal in world.

(2) Leopard seals eat penguins. Seen only once, in the water.

(3) Antarctic fur seal. Seen later. Fur seals have the thickest hair of any animal, 360,000 hairs per square inch! Really more in the sub-Antarctic islands and southern South America, and at the southern end of their range in the Peninsula.

(4) Southern elephant seal. Seen once and well later. Again, really at the southern end of its range, mostly sub-Antarctic islands.

(5) Weddell seals. Often seen later. Most southerly mammal in the world. Lives almost entirely in and on ice.

(6) Ross seal. Seldom seen. In fact, I did not talk with any of the crew who had seen one.

Seen at the stern, after lunch:  
wandering albatross.

Albatrosses are the world's largest flying birds. 100-142" wingspan.

Giant petrel  
kelp gulls  
Antarctic skuas  
sheathbills

Jan. 31, Monday. I awoke to see my first iceberg, out David's window.

cape petrel - pintado  
Southern fulmar

General Peninsula notes:

It was not until 1937 that geographers knew that the peninsula was connected to the mainland. Campbell, Crystal Desert, p. 167.

We passed Robert's Island. (in the South Shetland Islands)

Passed Greenwich Island (pix), once the scene of much sailing.

Passed Yankee Harbor, Greenwich Island

Passed, on the port side, Livingston Island, and an Argentine station (all still in South Shetland Islands).

2 humpback whales, seen in water.

I saw their tails, twice, nicely.

Leopard seal, with its head well above water.

Wilson's storm petrel.

Blue-eyed shag. Briefly seen from rear deck.

crustose lichens.

On Halfmoon Island there nest 3,300 pairs of chinstrap penguins.

2.00 p.m. We landed by Zodiacs on Half Moon Island, a small island between Livingston and Greenwich Island (and therefore still one of the South Shetland Islands). Named for its shape as a half moon. There were only a few patches of snow on Half Moon Island

I took one picture, with a wrecked boat and penguins. Then I knocked the camera over, trying to take a 400 mm. pix of a fur seal, and it locked up. But, fortunately, I got it going again back on the boat. (so I have no good pictures of chinstrap penguins, but some from copies).

Seen there, 50 fur seals, lying on the beach, some in the water, 36 on the far side, some of them seen up close and some walking on all fours. This is the only seal that can sit up or walk on all fours.

Southern black-backed gull.

We passed a Chilean ship, restocking a base.

Pack ice is frozen sea water, not fresh water ice, as from glaciers and icebergs.

The ring of sea ice around the continent in winter enlarges it one and a half times.

fast ice - sea ice that is fastened to the land, or between grounded icebergs.

growler - a small piece of ice, difficult to see or pick up with radar and awash with waves, and a hazard to boats. When the ship goes by they scrape the hull and "growl."

2 whales seen port side

3 whales seen starboard, though only the blow spray seen for two of these three.

black browed albatross, the most abundant and widespread of albatrosses.

Passed Deception Island (still one of the South Shetland Islands, which we are soon leaving)

one whale, briefly seen

Grey-headed albatross, though I couldn't say I really saw it.

blue-eyed shag

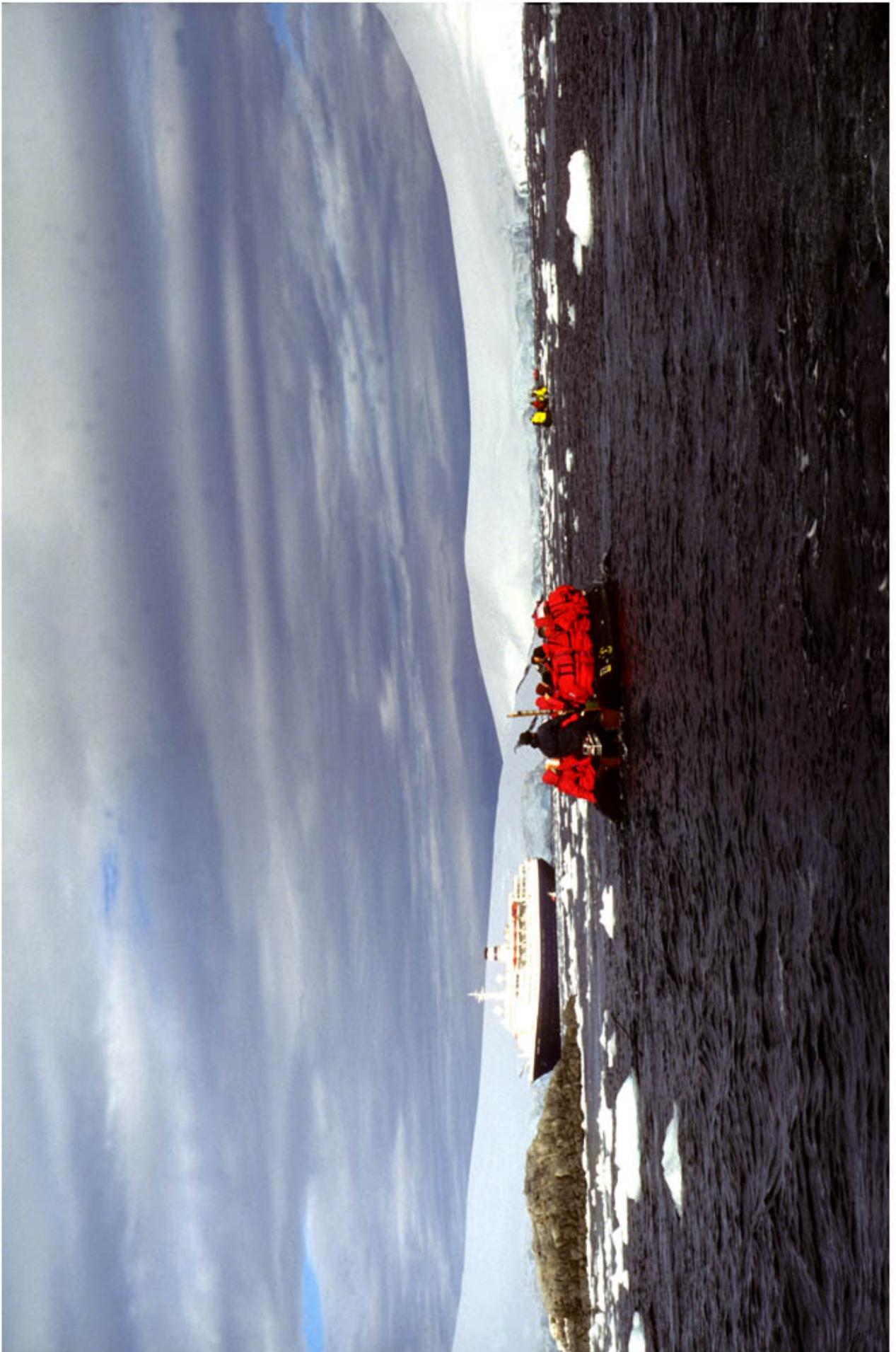
pintado = cape petrel

After supper:

11 whales, in singles, two or three, mostly I saw only the blows, but I saw tails (tail=fluke) well on two of them, and the flippers on another one.

It was cold out on the stern deck.





The ice was spectacular, very jagged, and lots of ice in the water.

Back on board, 6.00 p.m.

Film of Richard Byrd, 1888-1957, Alone on the Ice.

Byrd was first to fly over the North and the South Poles--or so it was long thought.

From the family of Virginia Byrds. He was an early naval aviator. He was a navigator, not a pilot. He had tried to beat Lindberg across the Atlantic and failed there.

He long claimed to have flown over the North Pole first, but it is now widely believed that he did not. He was mistaken, or he lied about it.

He was the first to fly over the South Pole. He raised the money, a private operation, and sailed in 1928.

Later, the U.S. Navy used Byrd to establish the five Little Americas. The first one was at the Bay of Whales, Ross Ice Shelf (see map), for 42 men. They overwintered there, and sent regular radio reports to the NY Times.

All the Little Americas were on ice, the Ross Ice Shelf, and all have now broken loose and floated off to sea, melted and sunk.

Others on his expedition found new areas, but he claimed to have found them instead, even on flights on which he was not present.

In November 1929, he and his pilot set out for the South Pole. But they found it difficult to get over the mountains. Then the pilot found an updraft, and they did get over.

He was promoted to Admiral. He produced a Hollywood documentary, which wasn't particularly true, and glorified himself.

He tried another expedition, but it was in Depression times, 1933, and slower going. This time he planned to spend a winter alone in a remote weather station. There were supposed to be three men, but he insisted on doing it alone.

There were poisonous fumes from carbon monoxide from his generator, of which he was unaware, though he thought it might be his stove.

After garbled messages on the radio, they sent a tractor party after him, and couldn't get the tractors through. A second attempt had engine problems. Eventually they reached him, almost dead. He was 47 years old.

He returned to the U.S. six months later, thinking himself a failure. Wrote a book, Alone on the Ice, which became a best seller.

The government took over polar research and used him as a figurehead, Operation High Jump. His last trip was in 1955. He died at 68 in 1957. His image was tarnished in 1971 with conclusive evidence from his diary that he had not reached the North Pole and knew it.

Operation High Jump in 1947 was the largest exploring force in history. 4,700 men, 13 ships, and

20 aircraft. They built Little America IV.

Gray was on Little America V, in 1956-57. Byrd was along?? on an icebreaker. This was preparing for the International Geophysical Year, July 1, 1956 through December 31, 1958.

Gray met Byrd once, in Washington, and believes he was on the icebreaker, Glacier.

Very white mountains seen after supper in the evening light, and another enormous mountain behind it, which looks like a cloud (pix).

Feb. 2, Wednesday. Through Lemaire Channel, right after breakfast. Lemaire Channel is a narrow channel running between the mountains of Booth Island and the Peninsula. Very scenic.

The helicopter went out to scout the channel (pix). Overcast and cloud bright skies. The cliffs come right down to the water in a narrow channel.

Notable twin peaks, tall, rounded, Una's Tits. Lonely Planet, p. 305 (pix)

Zodiac cruise to Hovgaard Island. It was too deep for the ship to anchor, so the ship had to hover, while we cruised in the Zodiacs.

Nice close ups of iceberg on the way over. (pix) also some pix with Jane's camera too.

3 elephant seals (pix). Quite a nose.

I have now seen five seals, and all the seals here, except the Ross seal.

Then we went back through the Lemaire Channel a second time in the opposite direction. Quite windy on the fore deck, even hard to stand up in it.

I took lots of pix, some with 400 mm lens, of the mountains. Some with Jane's camera, including one panorama.

Jogged 2.6 miles, 35 minutes on the treadmill.

Whale lecture.

Cetaceans. Order Cetacea

Dolphins, under 12 feet. 26 species. Porpoises, 6 species.

Whales. Six species of baleen (filter feeding) whales. The baleen are plates in the mouth, that filter the krill.

1. Blue whale. A blue whale is the size of a jet liner. Difficult to study. Largest animal ever to live on Earth.
2. Fin whale



3. Sei whale
4. Humpback whale
5. Minke whale
6. Southern right whale

This one was the "right" one to kill; it was slow and easy to kill, and then so full of fat that it floated.

Two species of toothed whales.

1. Sperm whale. "sperm" Spermacetti in the brain, used in perfume, etc. Really a large dolphin.
2. Killer whale. Orcas. Really a porpoise or dolphin.

The food chains in the Antarctic tend to be short and simple. Everything eats krill or what eats krill.

Krill is a general term for 85 species of small crustaceans.

Half the photoplankton is diatoms, over 200 species.

Noon report, Feb. 2

Latitude 65° 6.6' S

Longitude 64° 01.9' W

Sunset 22.26 hours

Sunrise 04.50 hours.

We are now sailing through the Bismark Strait and out to open sea, for a 6-7 day voyage to the Ross Ice Shelf area, the other side of the continent. It is 3,000 miles away by sea!!

The ship is pitching and rolling considerably, much more than in Drake Passage. The ship has stabilizers, and without them it would be much worse.

We set the clocks back one hour at midnight.

Feb. 3, Thursday.

Foggy and low visibility and the sea is not as rough as last night.

All the area we are sailing in these eight days would be sea ice in winter.

The pack ice about doubles the size of the continent in winter.

Day at sea in the Bellinghausen Sea. Bellinghausen was a Russian, the first Russian to circumnavigate the globe, 1803-06.

Bellinghausen was also the first person to sight Antarctica, though he hardly knew what he was seeing. Lonely Planet, 16.

Lecture, Breaking Ice.

The clipper Adventurer got stuck in ice and an Argentine icebreaker towed them out, a couple days ago.

Lecture by Edith Ronne.

Jackie, or Edith, Ronne was the first American woman to set foot in Antarctica in 1946-48, though there was also another woman in her expedition. Her husband was Norwegian-American explorer Fin Ronne. Fin Ronne's father was a member of the Norwegian explorer Roald Amundsen's South Pole Expedition.

She didn't really plan to go, but was helping her husband, and went as far as Panama, then as far as Chile, then they decided to take her all the way.

The shelf was first named the Edith Ronne Ice Shelf. Her husband named it for her. But she had the name changed to just Ronne Ice Shelf. It matches Ross Ice Shelf better.

Bridge Report, Feb. 3

Latitude 66° 56' S

Longitude 70° 25' W

We have sailed 424 nautical miles (= 451 statute miles) in the last twenty-four hours. We have 2,800 nautical miles yet to go, = 3,220 statute miles.

Still in the Bellinghousen Sea.

At 6.00 a.m. we passed the Antarctic Circle

Sunset 22.40

Sunrise 4.21

3,640 statute miles for the whole trip.

There is much more water in the Southern Hemisphere. You can circumnavigate the globe without hitting a continent. The narrowest point is the Drake Passage. This also makes possible circumglobal currents.

Sea birds:

Have a desalinization gland

Albatrosses live over 60 years. They can fly 600 miles a day. They can be at sea up to seven years, not always in the air. Sometimes they rest on the water.

Giant petrels. N. Giant petrel. vs. S. Giant petrel. They are the vultures of the Southern Ocean.

pintado = Spanish for speckled.

Albatrosses, petrels, shearwaters have tube noses.

Gulls and terns are found only near the shore. Only one gull, the kelp, black-backed gull.

The Arctic tern comes in migration to the Southern Hemisphere, though the Antarctic tern does not go to the Northern Hemisphere.

The Antarctic petrel is found only here

snow petrel

prions

Antarctic cormorant = Imperial Shag = Blue Eyed Cormorant. Seen at Port Lochroy.

Sheath bill - sheath at base of bill

skuas - relatives of the gulls. About like jaegers.

There are only 39 species of nesting birds south of the Convergence, but millions of individuals.

The Ross Sea will be 600 miles closer to the Pole than the Peninsula.

Set clocks back tonight one hour again.

Feb. 4. Friday.

Sunny day, with icebergs dotting the ocean every half mile or so.

The Bellinghausen Sea gradually gives way to the Amundsen Sea somewhere here. Everything is the Southern Ocean, more generically.

Lecture: Beau Riffenburgh, the Discovery of Exploration. Mostly about how the media featured and promoted explorers to readers hungry for sensation, in an era when people believed that humans ought to conquer the planet.

Later conversation. He wrote The Myth of the Explorer, Cambridge University Press. He "deconstructs" the polar hero. Byrd's diaries, found at Ohio State University, a few years back clearly reveal that Byrd lied about reaching the North Pole by air. Ohio State University seems to have a big polar program. They have a journal about polar studies.

Weather became overcast, then clear again, but always a little misty.

Jackie Ronne spoke again, this time narrating a film of what her husband's expedition did and accomplished.

Widely scattered icebergs passing all day, typically a quarter mile or so away. Some jagged, some tabular. They are tabular (flat tops) when they break off from the Ross Ice Shelf. But after melting, they can flip over, all or part way, and then they are more jagged.

Noon report

67° 23' S Latitude

98° 93' W Longitude

We sailed 434 nautical miles in the last 24 hours.

Sea water temperature is now .2° C = 32° F.

Moderate to heavy sea, 10-12 foot swells

3-4 knots wind.

Sunset 22.36

Sunrise 4.32

Peter Hillary lecture.

He and his father went to the North Pole with Neil Armstrong, astronaut.

The Ross Ice Shelf is the size of France.

Watched a documentary on Scott, 90° South, a 1991 UK Video. There were photos and movies taken on the expedition, pieced together for this documentary. Scott took a small camera and a few rolls of film.

The winter is a day that begins in October and ends in March.

There are no land animals in the Antarctic - tho seals, whales.  
A curious combination of lifeless interior and a profusion of life along the ocean margins.

Glacial interiors are neon blue.

Feb. 5. Saturday.

Overcast.

Lecture: Antarctic Mayday. Bill Kearns, a Navy pilot with Operation High Jump. His plane iced and crashed in the Hudson Mountain Range, and he and six other survivors spent two weeks in the plane, awaiting rescue. He wrote a book, The Silent Continent. He later became a correspondent for Business Week and Time magazine.

At 70° S we will get 24 hour daylight.

There is a remnant petrified forest at 10,000 ft.

Weather cleared up about 11.00 a.m. Lovely day, blue sky, but cold.

By dinnertime, there are long runs of pack ice, 3-4 miles long. Icebergs in the distance much bigger than the ship.

Noon Report

65° 22'S Latitude

115° 40'W Longitude

The last 24 hours we have sailed 442 nautical miles.

Sunset 22.45

Sunrise 05.12

Sea depth 4,856 meters = 15,894 feet.

At 8.00 p.m. we passed a large and beautiful iceberg, quite near the ship. This is nearest we have come to such a big one. Overcast, but deep blue in the cracks and holes in it.

Peter Mezoian, Banjo virtuosso in the evening.

Feb. 6, Sunday.

Overcast. Sizeable iceberg passing as we started breakfast.

Worship service, led by an Anglican canon. An interesting experience singing, "Eternal Father, strong to save, whose arm dost bind the restless wave" here deep in the Southern Ocean.

A large iceberg, shaped like the Matterhorn, passed during the service.

Lecture: Trans-Antarctica Expedition, 1990. Dogsled team, 6 people, 3 dogsled teams. The people skied nearly 4,000 miles, 220 days.

Interrupted by a lifeboat drill.

Noon report:

64° 06' S latitude

132° 00' W longitude

In the last 24 hours, we have sailed 463 miles. It is now 580 miles to the west coast of Marie Byrd land.

Sea Depth 4,899 meters = 16,068 feet.

Sunset 22.30

Sunrise 05.35

Air temperature 1° C = 33.8° F

Sea temperature 0° C = 32° F

Estimated time of arrival at McMurdo Station is February 11 at 02.00.

Opera and popular concert by Janine Roebuck. It was snowing a little after the concert.

Lecture, Liz Cruwys

Lichens, 200 species

fungi, 20 species

mosses, 85 species

liverworts 25 species

algae, 400 species

We saw snow algae at Half Moon Island.

The largest genus of Antarctic mosses is Schistidium, with 13 species.

Later: Ochyra, Ryszard, Ronald L. Lewis Smith, and Halina Bednarek-Ochyra, 2000. The Illustrated Moss Flora of Antarctica. 685 pages, 42 color plates. Cambridge.

Ochyra is a Polish bryologist. This is the first modern flora to provide a comprehensive description of all known species and varieties of moss in the Antarctic biome. It complements The liverwort flora of Antarctica (Bednarek-Ochyra et al., 2000), so that now Antarctica can boast the best bryophyte floras of anywhere in the world. A beautiful, self-contained account of what is the major component of the Antarctic flora, this book represents the culmination of many years of meticulous research and extensive fieldwork. Ryszard Ochyra is a renowned moss taxonomist; Halina Bednarek-Ochyra is a renowned illustrator and bryophyte taxonomist; and Ronald L. Lewis Smith, until recently a senior ecologist with the British Antarctic Survey, Cambridge, has worked extensively on cryptogam research in Antarctica for over 40 years.

Only two flowering plants:

Deschampsia antarctica, Antarctic bundle grass. A dwarf species of Deschampsia. This one is the southernmost flowering plant in the world. Campbell, Crystal Desert, p. 264.

Colobanthus quitensis, Antarctic pink, or pearlwort. Cushion shaped.. A minute South American herb.

Scientific names, Lonely Planet, p. 143.

These two flowering plants are only on the peninsula; none are on the main continent. In comparable northern latitudes, there would be over a hundred species, but the Antarctic is colder.

Are they endemics? Apparently not, or at least close relatives are in Patagonia. Campbell, Crystal Desert, p. 57.

A quarter mile walk in Rocky Mountain National Park will bring an order of magnitude more species than on this entire continent.

There are freshwater lakes in Antarctica, some melted at times, near the coast, with microorganisms.

The dry valleys have lakes, always frozen on the surface, but liquid below, and in the lakes are bacteria, algae, and aquatic mosses. Campbell, Crystal Desert, p. 69.

Waters at the bottom of the dry valleys can be quite warm, to 77° F.

Sled dogs banned from Antarctica since the mid-1990's, because they carry canine distemper, a threat to seals. Last husky left Antarctica in 1994.

Noon bridge report:

67° 19' S latitude

148° 40' W longitude

454 nautical miles covered in the last twenty-four hours.

964 to go to the Ross Ice Shelf.

We are in the Amundsen Sea.

An ice shelf is thirty miles port side, but we cannot see it.

Sea temperature 0° C = 32° F

Air temperature 1° C = 34° F

Wind 12-15 knots

23.00 sunset

5.15 sunrise

We are setting clocks back one hour each night.

An old saying of the whalers is:

"Below 40°, there is no law."

"Below 50°, there is no God."

The fish fauna in the Antarctic is rather poor. There are 20,000 species of fish on Earth. Only 120 are found south of the convergence.

Antarctica has one river, the Onyx, which seasonally drains a glacier in the Wright Valley. Campbell, Crystal Desert, p. 68.

Emperor penguins breed on ice, and are the only bird that need not even touch land. Campbell, Crystal Desert, p. 76.

One and one-half mile long iceberg. We passed a huge iceberg, tabular about 5.15 p.m. The announcement from the bridge said it was 1 1/2 miles long. I took many pix, including panorama with Jane's camera.

Brief summaries of invertebrates, see Campbell, Crystal Desert, pp. 264-265.

There are lots of invertebrates under water. Especially sponges. There could be here the greatest

diversity of sponges on Earth. p. 125.

There is little or no life under the sea under the Ross Ice Shelf. Crystal Desert, p. 127.

South of the convergence, diatoms dominate. North of the convergence, coccolithophorids. Heacox, Antarctica, National Geographic, p. 10.

A big danger is falling into a crevasse. This is covered over above with snow. Dogs often fall in, but are harnessed and you pull them out.

I have been doing quite well on the treadmill, 3 miles every day at a pretty good pace. It is a bizarre experience to be jogging and watch the icebergs passing out the rear window.

Feb. 7, Monday.

Lecture, Climb of Mt. Vinson, Peter Hillary.

Hilary and another guide took five clients up Mt. Vinson, the highest mountain in the Antarctic. 5,140 meters = 16,859 feet. The five clients had no previous Antarctica experience, some hadn't even camped or skied.

Overcast day and light snow.

Quite blue/gray and bleak looking over the sea, though you can't see that far.

Sea water freezes at  $-1.8^{\circ}\text{C}$ .

Meteorites concentrate in an area near the s. magnetic pole.

Several large icebergs passing, during lunch. Still overcast.

Albatrosses must have wind to fly. Pack ice disrupts the wind currents from the sea, which they need to fly.

Feb. 8, Tuesday.

Lecture: Malcolm McFarlane. The New Zealand Antarctic Program.

There is some photosynthesis down to  $-23^{\circ}\text{C}$ .

Lecture: Aviation in the Antarctic.

GPS, Global Positioning Systems, works well, if in range. But there are only four satellites, and after 4-6 hours they are out of range.

Captain talks about the ship.

10,500 horsepower, 2 engines, total of 21,000 horsepower.

The hull of the ship is ice-strengthened. We can go through heavy ice, but we are not an ice-breaker. They have frequent and thicker ribs and thicker plates.

There are stabilizers.

No garbage is tossed overboard, but there is an incinerator. The rest is frozen.

The ship is 600 feet long, 75 feet wide.

The nearest ship now is 325 miles away, a supply ship to McMurdo. There is no cruise ship in the area now.

The ship has 2 radars, but no sonar. There is a depth sounder.

Bridge Report, noon:

70° 33'S latitude

167° 20' W latitude

445 miles in last 24 hours

655 miles to McMurdo yet to go

Sunset 23.50

Sunrise 04.15

Lecture: Science in the South, Liz Cruwys.

Scott Polar Research Institute, located at Cambridge University.

Lensfield Rd.

Cambridge CB2 1ER

UK

There are four main British science stations.

(1) Halley. west of the Ronne Ice Sheet. Data led to the ozone hole. Lonely Planet, p. 309.

(2) Rothera, on the peninsula.

(3) Grytviken, on Bird Island. way up north, 55° S.

(4) Signy Island, once permanent, now summer only. A small island off Coronation Island in the South Orkney Islands. Map, Lonely Planet, p. 274, 11, and National Geographic map.

Antarctic petrels, 6-8 of them at the stern of the ship. They are seldom found far from ice and mainly in the Ross sea.

formal dinner, with David in his tuxedo. (pix)

The Ross Sea is little visited by tourists due to the Pack Ice, until the last decade. Not annually visited until 1992, and then only by a couple ships a year.

Amundsen's base was at Franheim in the Bay of Whales.

All five of Richard E. Byrd's Little America stations were there, covered over by drifting snows, and have since calved off on icebergs and drifted off to melt and sink into the sea.

The magnetic pole used to be over land, but it drifts and is now over the sea.

In the Dry Valleys, there has been no rain for 2 million years! Lonely Planet, p. 315.

We are now too far south for albatrosses.

I watched Antarctic petrels until late in the evening, but still in good light (and still overcast). They are great fliers, often down quite close to the water.

Feb. 9, Wednesday.

Overcast again! We need better weather. Light snow off and on.

The Ross Ice Shelf is as big as France, and actually floating, an incredibly stupendous ice sheet.

This the last time that the Marco Polo will cruise to the Ross Ice Shelf. The company has bought another ship, and they do not need to shuttle the Marco Polo from Atlantic to Pacific, and they can make more money on other trips.

The New Zealand representative gives permission for us to be here? Malcolm McFarlane.

Antarctic Heritage Trust. Mostly a New Zealand agency, though technically they are international.

fast ice - fastened to the land. If loose it is pack ice. Also the fast ice will be fresh water. The pack ice will be sea water.

Pack ice gets pushed and shoved together, or floes "packed" onto floes.

This is the end of summer now, and the ice will be easiest.

There are three ships in our area.

1. Green Wave - a supply ship
2. Coast Guard icebreaker.
3. Nathaniel B. Palmer, a research ship. (2 of them later seen at McMurdo)

Of the four previous cruises, the Marco Polo only got to McMurdo and landed once, one out of four. But it looks good for us.

There are 11,000 tourists this year. Maybe 800 of them make the Ross Sea area, and half of these are on this ship.

Only 40 tourists reach the South Pole, at a cost of about \$ 25,000 per trip.

Lots of if's, depending on sea and ice, and weather.

Two other ships carry tourists here.

1. Kapitan Khlebkonov, to and from New Zealand.
2. Academician ....

Both are Russian ships chartered to New Zealand companies.

Snow petrels have appeared at the stern. This is the bird everybody has come to see, though it is circumpolar and abundant. I saw one at the stern mixed in with 8-10 Antarctic petrels.

Snow petrels are highly maneuverable and ghost-like on the ice, the white a perfect camouflage

in ice and snow. They are found only in association with pack ice and always south of 55° latitude.

Some of their nesting colonies have been radio-carbon dated to 34,000 years ago.

3 snow petrels mixed in with about 12-15 Antarctic petrels. Great fliers, all of them.

If we get into the pack ice, we can only go 3 knots, compared with 15-20 otherwise.

Hercules

Twin Otter

are the two main planes now used here.

Icebergs are by volume 1 unit above water, 8 below.  
by height, 1 unit above, 5 below.

Young ice is white to light grey, the first 1-2 years.

Old ice changes from green (rare) to vitriol blue.

Water absorbs all the spectral colors, except blue. Hence blue water, and also blue sky (water vapor).

though in an ice cube placed in a glass of water, the effect is too weak to notice.

New ice has too many air bubbles to be blue.

Sea ice is seldom more than 2 meters, = 7 feet, thick.

One snow petrel in with 6-8 Antarctic petrels at lunch.

We are to reach the Ross Ice Shelf about 4.00 p.m.

After lunch, the fog cleared, though still overcast, but at least visibility is good.

We are picking up icebergs again, or maybe they were there in the fog all along and we couldn't see them.

It is rather cold on deck. You are fighting cold all the time and have to come in to warm up.

Noon Bridge Report:

76° 24' S latitude

175° 45' East. Yes, east, we crossed 180°, international dateline.

Sea temperature - -0.2° C

Air temperature - -4° C

The midnight sun, our first, will be about 4° above the horizon.

We began to see the Ross Ice Shelf about 3.30 in the distance and gradually closer. It was first seen on the port side but then on the starboard side as well as port, as we were in what proved to be a bay and peninsula.

Ross Ice Shelf average height is 150 feet (45 m.). 480 miles long.

The more spectacular ice was starboard. Took lots of pix, including panoramas with Jane's camera.

The Bridge first said that the starboard ice was a big iceberg, 15 miles long, and maybe we could travel and go between the iceberg and the main ice shelf. But after half an hour they said no, it was a peninsula of the ice shelf. So we had to turn around and go back.

[Later, in March, the biggest iceberg ever known breaks from the Ross Ice Shelf, see item at end.]

There were lots of seals on the ice, at a distance, said to be Weddell seals and a few crabeaters.

Two emperor penguins spotted, though I only saw the second one, and that just a small erect black figure out on the ice. Looked for them on the return but I couldn't find them.

Saw Mt. Erebus and Mt. Terror in the distance. Tried various pix, probably all turned out poorly.

Dinner, with the Ross Ice Shelf passing by just out of the window. This is a great table location.

Mt. Terror and Mt. Erebus were announced to be nicely visible during the dinner, but by the time I got out Mt. Erebus was in cloud, though Mt. Terror still visible (pix).

We passed Beaufort Island, starboard.

9.30 p.m. Mt. Erebus cleared as we turned around toward Mt. Bird peninsula. The plume of smoke was clearly visible. Took lots of pix, including bracketed exposures, and 400 mm. bracketed exposure, with one on the last of a roll (# 36) and two opening up and closing down f-stops on the next roll.

Mt. Erebus - the world's most southerly volcano, 3795 m.

Mt. Terror, an extinct volcano, 3261 meters.

Erebus and Terror were the two ships of James Clark Ross (1800-1862), Scotsman who first explored the area. Ross Sea, Ross Ice Shelf, Ross Island all named for him. When he saw the ice shelf, he said, "We might with equal chance of success try to sail through the cliffs of Dover." Lonely Planet, p. 23.

Mt. Erebus, 12,447 feet, is covered with ice, but boiling inside. Earth's most striking mixture of fire and ice. There is a bubbling lava lake inside. Though taking the name of the ship, the ship was named after the gateway to hell in Dante's Inferno. Dante took the name from Erebus, a deity of hell, primeval Darkness (according to Hesiod in a poem, Theogony, about the origins of the gods). Erebus sprung from Chaos and Caligo. He married his sister, Nux, Night, and his offspring were Lux, Light, and Dies, Day. Erebus also often just meant hell itself.

Ross Ice Shelf is variously called the Barrier, the Great Barrier.

11.15 p.m. More pix of Mt. Erebus, also a "sunset" sort of pix.

257 people were killed when Air New Zealand Flight 901 crashed into Mt. Erebus on Nov. 28, 1979, and the site is now declared a tomb.

Emperor penguins breed on sea ice in the coldest conditions endured by any bird.

The midnight sun was shining bright at midnight. Too bright to take a picture of.

Feb. 10, Thursday.

We skipped it. We have crossed the date line.

Feb. 11, Friday. Up at 5.00 a.m.

Cold wind  $-10^{\circ}\text{C} = 14^{\circ}\text{F}$

35 knots wind. Deep wind chill =  $-30^{\circ}\text{F}$  to  $-26^{\circ}\text{F}$  wind chill

The coldest to date. Ship moved up in an ice channel to McMurdo (pix).

The ice at McMurdo was cut by an icebreaker, first a channel only, but then a wind came and blew out the entire east side, a couple days before we arrived.

Scott station, run by New Zealand, is nearby. There are 100 there in summer, down to nine in the winter.

But, alas, it is too windy to put down the Zodiacs.

Later, a Zodiac went ashore and the driver came back splashed with ice, like he had fallen in. The spray flies up and quickly freezes and loads the Zodiac down with ice.

They also launched a tender (lifeboat), but couldn't get the engine running right. Happy thought, the lifeboat's aren't in good repair!

1.15 p.m. No landing today, too windy.

So we sailed back out the channel, and went looking for whales.

An ice floe went by with 4-5 Adelie penguins on one side, and on the back one large emperor penguin in the middle of it. Great scene, even if some distance off. Much better view of an emperor penguin than I had in the afternoon.

Orcas. Killer whales. The first 3-4 were seen at a distance, fins and part of body above water. Notable dorsal fin, sticks straight up. Males and females differ.

Then we saw 6-8 sticking their fins straight up in a slit through the ice, then "spyhopping," sticking their heads up about a third body length out of water. You could see the white color spots well. Great sight in the snow and with the snow-clad mountains behind them. They are looking for penguins or seals to eat, and they can flip the ice floes to catch them.

Adelie penguins vs. emperor penguins:

An Adelie is knee high. Emperors more than thigh high. With an emperor you see the big bill.

Emperor has white on the back half of the head. Adelie has all black head. Emperors have some yellow on the head.

And just as I was writing this, both kinds of penguins came by on an ice floe - the best look at an emperor penguin I have had.

Once an orca broke water right at the side of the ship, below where I was standing, but it was not large. Only the size of a porpoise.

Derek Frost - the older man who knew birds well, and was almost always out on the back deck.

Grease ice. half frozen water, slushy, with a greasy look. Seen frequently today.

Another emperor penguin, facing us and only the white breast seen.

ice floes, with a seal and an emperor penguin in distance (pix)

Quite cold to try to stand on the deck long.

Passed the Adelie Islands, like small volcanoes, standing up out of the water and ice.

We will attempt day after tomorrow a landing on Cape Evans, Scott's final hut, but this is a stop of historic interest, not a wildlife stop.

Cape Royd's, Shackleton's hut, a smaller hut. With an Adelie penguin colony, the southernmost penguin colony in the world. The chicks there are molting now, shedding their down, and will get their adult feathers soon, when their parents leave them. When they get hungry enough they try it in the water and learn to feed themselves. But the orcas can lurk around and catch them.

We are our furthest south at McMurdo:

77° 52' South. Almost 78°

166° 37' East Longitude

By contrast North Cape in Europe is 74° 14'.

There have been more meteor's collected in the Antarctic than anywhere else, 19,000 compared with 2,500 elsewhere in the world. Not only does the magnetic pole draw them, but a rock on the snow is a meteorite. They stand out, because they are the only rock with a mile of ice under them.

Feb. 12, Saturday. Awoke, back in McMurdo Sound, with a light dusting of snow over the ship. The landscape is quite overcast. But the wind is down and we are going ashore in tenders. (They got them working!).

Air Temperature 18° F and wind, makes this the coldest exposure on the trip so far. We couldn't take in the Zodiacs, too much exposure, but the tenders are covered. Also there is enough dock there to tie the tenders up to.

Treadmill jog in the morning.

11.45 a.m. Went ashore in tender in light snow. Walked around perhaps a mile. Pix of 3 Adelie penguins and ship.

McMurdo is Antarctica's largest station, up to 1,200 people in summer, and about 200 in winter. About a hundred buildings, over 4 sq. km.

Scott's cross on Observation Hill, in memory of the five men in Scott's expedition who perished in 1911/1912. (pix) Inscription: "To strive, to seek, to find, and not to yield" (from Tennyson, Ulysses). Five who died were Edgar Evans, Lawrence Oates, Edward Wilson, Robert Scott, Henry Bowers.

Admiral Byrd bust (pix)

Then on a tour of the Creary lab.

Then into a store, bought a mug, and then walked back.  
Chapel of the Snows, seen some distance off (pix).

It snowed steadily all the time we were there, and poor visibility. We couldn't see the ship in the harbor on our return.

There were helicopters unloading something.

McMurdo Station was built the year Gray was here, finished January 1956, as part of Little America V, which was on the ice and is now gone. Gray was there at Little America V, not here, but at the end his ship came to McMurdo and he was on the ship here ten days or so, but never came ashore.

McMurdo was named from McMurdo Sound, named after Lt. Archibald McMurdo of the Ship Terror in 1841.

The ship sailed 3.00 or so, and we went to Scott's Terra Nova Cape Evans Hut, which we hope to visit tomorrow. We sailed by the hut, very wintry looking in a steady light blowing snow. And cold. (pix)

Then sailed on to look at Shackleton's Hut at Cape Royds. Again, very wintry looking.

There were several hundred Adelie Penguins visible, around and about the hut, and between the hut and the shore. This is the southernmost penguin rookery in the world, about 3,500 pairs.

23,000 pairs of penguins in the Cape Royd's area.

Feb. 13, Sunday.

There is too much ice in the bay at Shackleton's Hut, Cape Royd's, and we can't land there. We would have to climb up over six feet of packed up ice.

So we head toward Cape Evans and Scott's hut, which is the better one anyway. We were scheduled for 3.45 and then moved up to 1.45 to go ashore.

This the hut from Scott's Terra Nova expedition, erected January 1911. Scott named this Cape Evans, after his second in command, Edward Evans. Twenty five men lived here.

Calm water, light snow all morning. Jogged 3 miles on the treadmill.

Only forty people can go ashore at a time, and only 12 in the hut at one time.

Went ashore and took a whole roll of pix.  
Zodiac Driver, Travis Cresswell (pix).

After getting off the Zodiac, we had to wait a while before going in to the hut. Penguins there and also a Weddell seal (pix)

The Terra Nova expedition, so-named from the ship, 1910-1913. Robert F. Scott, built huts here, Cape Evans, also at Cape Adare. Sledding party reached the South Pole on Jan. 17, 1912, to discover Amundsen had been there, died on return journey.

In the hut, various pix. Stove. Oates' bunk, with pony bridles, etc., hanging over the end of it.

Scott's bunk, with sleeping bags on it, left side (pix)  
pix with both my camera and Jane's camera.  
Wilson's bunk was opposite Scott's.  
scientific lab (pix).

Powerful sense of history here, and of tragedy.

Outside we walked up a hill, Wind Vane Hill.

Shackleton's party, expecting Shackleton to come across the continent from the Weddell Sea, used this hut later, 1915-1916. Got stranded when their ship, Aurora, was blown from its moorings. Mooring anchor is said still to be on the beach. Left without adequate provisions, ten men spent 20 difficult months here, and three of them died, one of scurvy and two vanished in a storm. The cross on the hill was erected in their memory. (pix of me in front of it).

At the door of the hut, counting the number allowed inside, was David Wilson, great nephew of Dr. Edward Wilson, whose bunk we saw, and who died with Scott on the ill-fated return trip.

Returned to ship.

The ship had hit an iceberg hard enough to make a dent in the stern (pix). Yes, the stern.

Worship service, 5.30 p.m. Led by the English canon. A bit strange to sing the Twenty-Third Psalm in this environment.

The Vestfold Hills, East Antarctica, near Davis Station (Australia) have a series of lakes, both freshwater and saline, that are liquid below and even hot.

Bunger Hills, near Shackleton Ice Shelf, has freshwater lakes, meltwater ponds.

Feb. 14, Monday. Valentine's Day, but it is not yet Valentine's Day at home!

Arose, planning to go ashore to a penguin rookery at Cape Bird, but the bridge announced that, though the sea was fine, the swells at the shore were too rough to land. So we will do a Zodiac cruise instead.

We went on the cruise. Lots of Adelie penguins, and 10-12 Weddell seals. Skua, some eating some penguin chicks. These chicks are in full feathers now and at the point of going out to sea. After their parents have left them and they have to figure out what to do next, when one goes in the water, others will follow.



The Zodiac driver says 40-60 killer whales were seen from the bridge about 5.00 a.m., looking around for penguins.

We cruised in to a bay where the ice had calved off from a glacier.

Quite scenic cruise, and there was a definite sense of being in a world of ice.

About 10.00 a.m., we set sail for Beaufort Island, then Franklin Island, then lots of pack ice, going toward Terra Nova Bay, an Italian station.

After lunch, under sail, icebergs in front of Beaufort Island.

One orca briefly seen, not far from the ship.

We hit pack ice about 10.00 p.m. and were in and out of it until about 11.00 p.m. Lovely color, under good sun.

Various pix, including some with Jane's camera.

The helicopter went up to monitor the ice.

Snow petrels in marvelous flight at the side of the ship, and 10-12 of them at the stern.

Feb. 15, Friday.

Awoke in Terra Nova Bay, thinking it would be too rough to go ashore. They decided to use the tenders, as it would be too rough for the Zodiacs, and there is enough wharf for the tenders (which require some dock, unlike the Zodiacs). It proved to be tough getting out, on and off.

Italica, a ship seen in the bay.

We walked around the station for 45 minutes. This is the Antarctic mainland, not an island.

We set sail about lunch and went past Cape Washington (dark ice face, steep) (pix), and icebergs in front of it. (on [National Geographic](#) map)

We sailed between two large icebergs, one half the size of a golf course, the other bigger than a football field. (pix in distance).

Helicopter sent up to scout the ice.

We continued to Coulman Island, about 8.00 p.m. (on [National Geographic](#) map)

It started snowing before Coulman Island and we thought we would not see it, but then it cleared enough to see it rather mystically in the snow. Mountains with a large stone pylon down toward the sea. Then a steep glacier tumbling into the sea, and narrow ice shelf 5-10 miles long.

Feb. 16, Wednesday.

1.00 a.m., we passed Cape Hallen, quite overcast and dim light, but visible. We watched it go by for 10-15 minutes.



6.00 a.m., passed Cape Adare. We saw great icebergs, some of the best of the trip, and as concentrated as anywhere we have been. Overcast but quite scenic. Splendid aesthetics. (lots of pix).

Cape Adare is the northernmost headland at the entrance to the Ross Sea.

We went around the Point to the other side.

Borchgravink's Hut, seen on a flat area. He was the first to winter on the continent. The largest Adelie penguin colony in Antarctica is here, 250,000 pairs, 500,000 adults, plus their chicks. But many of them have left by now.

I watched a couple dozen penguins "porpoising" in the pack ice. They fly out of the water as then swim, and you can see 5-6 out of the water at one time. A memorable sight in the ice.

Snow petrels.

A couple of seals on the pack ice and at some distance.  
a couple giant petrels.

We had the third emergency lifeboat drill.

Afternoon, good sun.

30 snow petrels at the rear of the ship

15 Antarctic petrels.

Southern fulmar - 3-4 seen.

Bridge Report:

69° 57'S latitude

170° 00' East.

1682 n. miles to Christchurch

sunset 22 40

sunrise 06 00

Feb. 17, Thursday.

overcast and still a few icebergs in the sea now and again.

I gave 9.30 lecture, "Environmental Ethics and Policy in the Antarctic."

Afternoon. Overcast and cloudy bright.

Sooty shearwater - small, quite sooty black, flying quite low over the water. Even the bill and legs are gray.

Bridge Report:

63° 01' South

168° 18' E Longitude

1264 n. miles to Christchurch

Sea depth;: 3,155 meters = 10,348 feet.

5.00 p.m. About 500 sooty shearwaters, an enormous number of them, off the port side.

one black-browed albatross, nicely seen and close enough to see the black brown.

Captain Scott dinner, with the menu he had at a celebrating dinner, when he left Cardiff, Wales.

After supper, constantly 30-50 shearwaters port side, but flying faster than the boat. There seemed an endless chain of them, coming out of the mist and disappearing into the mist.

Evening: A reading of "These Rough Notes," extracts from Scott's journals, and his wife's diary, done by expedition staff.

Feb. 18, Friday.

We passed the convergence about 1.00 a.m. Sea temperature went from 2° C to 6° C, starting at 59° 22' S.

overcast sky. day at sea.

Yellownosed albatross. Seen well, though briefly, and the experts decided it was this one, which excited them.

black-browed albatross. 3-4 of these seen passing the boat.

gray-headed albatross

white-headed petrel, seen briefly.

In the morning, Peter Hillary account of a K2 climb in 1995. Nearing the summit, he turned back, with the prospect of a storm approaching. Seven others, 2 Americans, one a woman, 2 Brits, 23 Spanish, went on. The storm broke and he got back with difficulty. One Brit got back next morning but died. The others all died.

One moral: In that kind of situation, there isn't safety in numbers. Each was thinking, if the others are doing it, it must be safe.

Bridge Report:

56° 10' S

167° 10' E

412 n. miles in last 24 hours.

Depth of sea 4819 meters = 15,806 feet

sunset 2123

sunrise 0704

2.00 p.m. visit to the bridge.

prions - 3-4 of them, some well seen  
light-mantled sooty albatross, well seen

sooty shearwaters, 20-30.

short-tailed shearwater, but I couldn't tell the difference.

grey-headed albatross, fairly well seen

Feb. 19, Saturday.

Up at 5.30 and out in the dark to await the Auckland Islands. It gradually got light. Overcast but visibility below a 200 foot cloud level was pretty good.

The Auckland Islands are sub-antarctic islands south of New Zealand, and they belong to New Zealand. Four main islands. Adams Island has been a nature reserve since 1910, and is pristine, without introduced species. Fjords and steep cliffs on Auckland Island. Efforts to settle here have always proved difficult. There was a Lord Auckland and the islands are named for him.

We sailed between Adams Island and Auckland Island, and into Carnley Harbor.

Overcast and low clouds, but eventually the sun came out a bit.  
Low forest on the island is of rata trees.

Lots of birds around the boat.

Antarctic petrels  
shy/white-capped albatrosses. 15-20 of them, some well seen  
sooty shearwaters. Tens of thousands of them.  
brown skua - 6-8

Northern Giant Petrel - yes, Northern.  
We have earlier seen the Southern Giant Petrel, often.

black-bellied storm petrel

diving petrel. Small, rapid wing-beat, but I had difficulty seeing them. Later, I saw them better.

wandering albatross - 10-15 of them, a few well seen.

Auckland Island shag (cormorant), is an endemic. I saw it flying well, obviously a cormorant-type flight, heavy, labored flight. Saw it 5-6 times flying.

White-fronted tern

Up where we turned around, on Figure Eight Island, in the north arm of Carnley Harbor, at much distance there were some New Zealand sea lions. They appeared as hardly more than pink blobs lying out in some grass. 5-6 of them, at too much distance for me to have known what they are.

Tens of thousands of sooty shearwaters, often in "rafts" sitting on the water.

giant petrel  
silver (red-billed) gull

another Auckland Island shag  
light-mantled sooty albatross

little shearwater, white undersides.  
black-backed gull  
black-bellied storm petrel

Royal albatross - seen in distance, on the bow. And much better seen and often later.

This is the first time the ship on tour has been to the Auckland Islands.

Lyttleton is the port of Christchurch. Scott left from here.

black-bellied storm petrel, well seen  
black and white, white at base of tail. Small, down near the water.

Shy/white-capped albatross. I watched one close-in nearly ten minutes in binoculars, a memorable experience.

Later, two of them close-up in binoculars at the same time  
three, nearby, at once.

Lunch. During lunch we watched up to six albatrosses outside the window by the lunch table.

After lunch, a great display of albatrosses, nearly all shy albatrosses.  
(various pix)

Royal Albatross, one seen briefly.

Buller's albatross, with gray head.

black-billed storm petrel

long-finned pilot whales  
Southern royal albatross. Great view, came in close. Watched it 5 minutes.  
No black on the tail. Wandering albatross has black.

seals  
Cape petrel  
unidentified whale

Northern black-browed albatross. Yellow eye.

Half a dozen or more albatrosses in sight all afternoon.

Constantly, sooty shearwaters.

Diving petrel, small and fast wing beat, a whir like a wind-up toy.

Jogged three miles on the treadmill, watching albatrosses out the window!

Sub-antarctic fur seals. 2 in the water, briefly, 30 yards away.

White-chinned petrel. Dark and something like a shearwater.

Giant petrels all day long, always 3-4 in sight at the back of the boat.

Noon report:

50° 05' S  
167° 00' E  
Sea temperature 10° C = 50° F  
Air temperature 12° C = 53.64° F  
sunset 2103  
Sunrise 06 56

Supper  
one seal after supper.

Feb. 20, Sunday,

Bright and clear, really the first such day we have had.

Water calm and no breeze

Albatrosses were sitting on the water in the distance. Not enough wind for them to fly.

Peter Carey, lecture on penguins.

10.00 a.m., New Zealand in sight, Banks Peninsula

3.00 docked in Lyttleton

5.00 short walk off the ship

silver gull  
with black wing tips  
black capped tern, several close to the ship.

Feb. 21, Monday. We were bussed over a pass to Christchurch and drive-thru bus tour of Christchurch, Visit to the Antarctic Centre, near airport.

Flight home, Quantas, crossing the date line, and living the same day twice, so arriving home also Feb. 21, Monday.

In March, 2000, the biggest iceberg in recorded history calved off from the Ross Ice Shelf. Named B-15 (the 15th berg to break of the B quadrant of Antarctica), it was 183 miles long and 23 miles wide. By May this had in turn broken into two pieces. It is threatening shipping into McMurdo. Story on hand, "Birth of An Antarctic Super-berg," Discover, October 2000, pp. 42-44.

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1-212-234-2480. Fax 1-202-234-2482.

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end Antarctica

Feb. 26-Feb. 29, 2000. Savannah, Georgia, speaking at First Presbyterian Church. Marvelous live oaks and Spanish moss, overhanging the streets. On Monday, Jane and I took a boat ride on Wassaw Sound, with Paul Weller. Medium sized boat, loaded with electronics, global satellite systems, radar. He is in his eighties and about to go to Key West on a fishing trip. Lots of brown pelicans. Glimpse of porpoises.

Yellowstone National Park  
Old Faithful in Winter and Wolves  
March 2000

Mar. 8, 2000, Wednesday. Left Ft. Collins, 7.45 a.m., with Bill Forbes. High winds and blowing snow had closed Route 287 to Laramie, so we took I-25 to Cheyenne. Partly cloudy and quite windy. Reached Cheyenne and took I-80 toward Laramie.

Over the high areas there was lots of blowing snow and slick roads. Then traffic slowed to a crawl for an hour. At the main trouble spot, there were seven trucks variously across the eastbound lane, a couple of them totally blocking the lane. We continued at a crawl, but we did stay moving. Reached Laramie and road conditions got much better. Still, several trucks had slid off the road.

One U-Haul truck had gone off the road and the sides had split open and the poor moving family's stuff was all out on the median strip!

268 antelope counted during the day, typically in groups of 20-25.

Lunched off the road a bit, a little north of Rawlins.  
Several picket pins out (Uinta ground squirrels). One pheasant. One sandhill crane in a field.

Reached Dubois about 4.30. Got information about bighorn sheep from the town information office. Drove up Whiskey Basin and wildlife habitat there. The slopes of Whiskey Mountain are swept free of snow by strong winds and this attracts the bighorns. The largest wintering herd in North America is here, about 900 sheep. But this winter has been mild, and the sheep did not concentrate here

as much as usual. Some that did have already made their way higher up.

Nice adult bald eagle perched. 24 elk on hill top in distance. Cottontail rabbit.

One bighorn sheep, magnificently silhouetted on a skyline ridge going up. Also an ewe some distance off.

Two moose in willows, close in by road.

Reached the end of the road, and trailhead, and turned around.

Seven bighorns high up, about dark on the way out.

Mar. 9, Thursday. We went back up Whiskey Canyon. 3 mule deer. Another 3 mule deer. 2 bighorns on a ridge top in lovely profile.

6 bighorns on the road.

Drove to the end of the road. One moose, again.  
3 mule deer.

One young bighorn, see quite nearby on a rock. Several of those seen on the way up were seen again on the way down.

Total of 9 bighorns.

The pines in here are limber pines, oval cones intact.

Returned to Dubois. Adult bald eagle perched in a cottonwood tree, in town.

Left Dubois. Picnic lunch at Togwotee Pass, in plenty of snow.

6 mule deer.

We checked in at Hatchett Motel, near Moran Junction.

Drove into Grand Teton National Park. The Tetons were not visible in the cloud and fog. In fact we never saw them in a week there. Drove south to the Elk Refuge just north of Jackson.

2 moose  
2 moose  
coyote running across the Elk Refuge.

1,000-2,000 elk in the Elk Refuge.  
3 mule deer.  
Perhaps 150 bull elk gathered in a group, all with quite good antlers.  
Clark's nutcracker. Magpie.

Visited the National Wildlife Museum, at least the shop, though it was nearly closing time and we did not go through the art museum.

19 elk seen through the trees, returning to motel.

2 moose crossed the road, and we watched them climbing the fence on both sides of the road. They just high-step over it.

3 moose.

Reached Moran Junction.

3 moose nicely seen in willows.

Coyote roadside, and then he went into a field with cows. Bill tried to get a picture, and failed.

Mar. 10, Friday. Left motel, 8.15.

There was what looked to us like a racoon roadkill, not all that far from the road. Definitely a ringed tail, though the face was turned away from us. But rangers later said there were no raccoons in the park.

The road was snow covered from flurries the night before. Reached Coulter Bay and Bill and I snowshoed about an hour, walking across the frozen arm of Jackson Lake here, then back around on a trail that runs near the lake. Snowshoe hare tracks, nice set. Another good set of tracks, presumably a coyote. These ran about a quarter mile along the trail.

Nice snow, 3-4 feet and we were the only (human) tracks over the most of it.

Reached Flagg Ranch about 11.00. Lunch.

The snow coaches left at 12.15. The vehicle is a Bombardier, nine passengers. Yellow coach with a Chrysler engine. Made in Canada. Noisy, they use earplugs, but a memorable experience. We ran on 3-4 feet of snow, which, they say, is about two-thirds of normal this year.

We stopped and walked in about a hundred yards, on deep but hardpacked snow, to Moose Falls (pix). The falls were still flowing nicely, not as iced up as one might think.

Bald eagle high in the sky.

Continued to Lewis Falls, where we walked over the road bridge.

One bison on some snow-free ground, near the river.

Passed Lewis Lake.

Reached West Thumb, with about fifty snowmobiles parked there. There were frequent snowmobiles the whole route. This is the last weekend, before snowmobiling closes in the park for the season.

Walking tour of West Thumb Geyser Basin. Good guide, who had lots of facts and figures.

Continued in snowcoach to Old Faithful. En route a view in the distance of Shoshone Lake, the largest in the U.S. without a road to it. (There are trails).

Half dozen elk nearing Old Faithful Lodge.

Reached Old Faithful and Snow Lodge. Checked in hastily to get out to see Old Faithful erupt in

a nice display. Checked in the Visitor Center to get advice for tomorrow. Then we walked to Giantess Geyser, said to be erupting off and on. But Plume Geyser put on a better display for us. Walked around some on Geyser Hill.

Back to Lodge.

Mar. 11, Sunday. Snowshoed to Mystic Falls (nearly).

Bill and I left about 9.00 and walked the trail (blacktopped in summer) to Morning Glory Pool. One bison near Old Faithful. (Pix, but the geyser cone is not Old Faithful, but the one next to it.)

23 bison in a field in the snow (pix).

We carried our snowshoes as far as Morning Glory Pool, walking on packed snow. Then we put on snowshoes and walked uphill, with some searching for the trail, and on to Artemisia Geyser. Passed about 20 elk right at the edge of the trail. Near Artemisia Geyser, adult bald eagle in tree.

Reached the road and Biscuit Basin. Some smaller geysers went off there.

We continued to snowshoe on the trail toward Mystic Falls, but it got rougher and eventually too filled with snow on steep-sloping hillsides of the canyon. We stopped possibly 200-300 yards short of the falls. Lunched sitting on a log, with a bull elk grazing on the hillside across from us, in a burned forest.

It snowed all the hike, fine snow, though it filled our tracks more than we thought.

Returned. 3 bison in Biscuit Basin in snow (pix of two of them).

We walked the road back, which turned out, toward the end, to have a lot of snow on it, and harder than we thought it would be.

Ravens on carcass, 2 bald eagles, one adult and one immature. 2 coyotes also at the carcass.

One bison in flat area on return.

32 bison in field as we approached Old Faithful.

We took a road that was unused by snowmobiles and kept falling in through the snow. I had to put my snowshoes on.

Back about 3.30, with all the hike we wanted. Six miles roundtrip.

We walked out to see Old Faithful erupt, and with some sun and blue sky now. There were only six persons watching it!

Napped, showered. Then we walked back out to see another eruption of Old Faithful, shortly after sunset, and from the far side. Rather wintry. Then we walked the loop and back to the Lodge.

Mar. 12, Sunday.

Up at 6.00 a.m. for 8.00 a.m. departure.

Snowcoach to West Thumb and then to Flagg Ranch. Stopped at Kepler's Falls (pix). Nice day, some snow flurries.

Reached Flagg Ranch, about 10.30 a.m.

Returned to car and drove s. toward Jackson on a fully snowpacked road (which had been half dry when we came in). Quite wintry.

Bright spots but we were unable to see the Tetons, though some lower peaks showed through at times--quite mystical looking.

1 moose

Lunched at an overlook over the river, with mountains coming and going in the clouds.

6 moose, some rather close to the road.

1 moose

1 moose

6 bison, right at roadside.

We stopped at the Moose Junction Visitor Center briefly.

Drove through the National Wildlife Refuge again, and the same 1,000-2,000 elk, more or less in the same places. More bulls this time than before.

Reached Jackson.

Drove over Teton Pass, lovely drive, cloudy bright, some blue sky. Continued up the Idaho side, to Ashton, and on north. Spent the night at Island Park, or, more accurately, at Last Chance, a bit before Island Park.

The country side is generally covered with 3-4 feet of snow. Potato farms, wheat farms. Targhee National Forest.

March 13, Monday.

Coyotes howling in the night, not long before dawn. We awoke to two moose feeding in the river, right out the motel window.

Drove to West Yellowstone and had breakfast in McDonalds, opposite the Grizzly Discovery Center.

Drove north from West Yellowstone on Route 191, through Targhee National Forest, and then into the Gallatin National Forest. Passed an arm of Hebgen Lake. Then the road goes into Yellowstone National Park, though there are no services on this road. Continued north and reached Bozeman Hot Springs, and then east into Bozeman. Reached Bozeman about 12.00 noon.

Bill did the wash, and I went to Safeway, buying groceries for the week. Continued east to Livingston on I-90, with lunch in the car, halfway. Reached Livingston and then drove south to Yellowstone. There was little snow in Paradise Valley, though there was snow in the hills. The high mountains were not visible in the clouds.

2-3 mule deer

6 mule deer

We checked into the Super 8 in Gardiner, and rode up into the Park.

13 antelope, 7 antelope, total of 20 in the park entrance vicinity.

150 elk in the distance on a hillside

6 mule deer

4 antelope

8 bull elk right at the roadside

16 elk

4 bighorn sheep, of which 3 were rams. In great profile on a mountain top. I got out the scope.

10 elk, nearing Mammoth

6 elk

10 elk, mostly ewes

24 elk

14 elk

100 elk, headed out toward Lamar Valley direction

20 elk

10 elk

18 elk

12 elk

33 elk

16 elk

and then we turned around after 6-8 miles.

Total of 447 elk for the day. And we didn't regularly count them thereafter.

Returned. Soup and salad, pizza for supper.

Mar. 14, Tuesday.

Up and into the Park. Visitor Center, then drove to Tower Junction. A few elk seen on the way out, thought only a fraction of the numbers seen the evening before. Then we snowshoed to Tower Falls, up what is a blacktop road in the summer. 2 1/2 miles, 5 miles roundtrip. 3 bighorns. 4 bighorns. Seen while snowshoeing, looking out over the river and across the canyon. One coyote shortly after starting to snowshoe. Reached Tower Falls, the falls with a big ice canopy, and the falls which could be seen through holes in this ice canopy. A good snow flurry on the way back.

Checked in at Lamar Ranch and moved into cabin.

Jim Halfpenny, Instructor

The caretaker is John Dorman, formerly an archaeologist, also a marine archaeologist, interested in finding sunken ships.

Participants:

Donna Bowles, Cody, WY. Had arthritis, and often difficulty in getting in and out of the van. Moved from the South to Cody a few years ago.

Mike Reusing and Melissa Cole, Elgin, TX, husband and wife.

Randy and Charmayne Cullom, Greeley, CO. He teaches business, at University of Northern Colorado ??, she computing at a business school. They were formerly in the East, Washington and Arkansas. They knew Bill Clinton, President, and he had worked in his administration in Arkansas.

William Forbes, Birmingham, AL

Marty and Patricia Huebner, Idaho Falls

Holmes Rolston

Lindsey T. Rue, Pipersville, PA, young woman with keen interest in wolves.

Jennifer Shoemaker, Yellowstone NP, young woman who works for the Park Service

Theresa Shuman, East Palatka, FL, 4th grade schoolteacher.

Jennifer Thompson, Helena, MT. Studied forestry, but now doing therapeutic art.

Janice Williams, Colbert, WA. Blonde, dental hygienist.

Minnesota has 4,600 wolves, killing lots of cattle. They ran out of funds to reimburse the ranchers for cattle killed.

Mar. 15, Wednesday. Up at 5.00 a.m., and off at 6.00 a.m. at daybreak. Drove up toward Soda Butte, about two miles east, and right off saw a great chase and near kill, the best sighting of the week. Close enough to the road (150 yards) to see it nicely in binoculars, though it all happened too quickly to get a scope on it. Three wolves chased a bull elk. One bit into its rear, but the elk was kicking hard and shook it off. The elk was first in the snow, but made it into a more snow free area, near some aspen trees, and there it could shake the wolves off. They hung around nearby for a while, and the moved further away. A fourth wolf joined them. (Jim HalfPenny videotaped it, and I have it on videotape. though he didn't get the first part of the chase, which would have been better still.)

Second chase. Twenty minutes later, the injured elk moved uphill into the snow, attempting to rejoin a group of elk higher up, from which it had been separated. The wolves returned and there was another chase with one wolf biting into the elk's rear and, again, the elk shook it off. Some fur flies off, and this can be seen in the video.

The wolves hung around a while, then left. Later, they seem to have made another kill a little higher up, and out of sight. 12-15 ravens gathered in aspen trees above the out-of-sight kill.

Eventually we moved further down the road and were able to see one wolf at a distance higher above the kill site. Then two wolves, then three up on the hill, resting and playing--with some uncertainty whether they had fed or were waiting to feed.

Drove up to Pebble Creek to see an elk carcass that had been killed by a grizzly bear, the first one seen out this season. Lots of tracks. Returned to the Ranch for a brief break. Then returned to a set of grizzly tracks a half mile below the carcass, and made casts of these grizzly tracks.

Lunch. Lecture on tracking.

Back out look for wolves in late afternoon. None seen at the morning kill, though others had seen one or two a half hour before.

Bighorn ram on the hillside, nice sight.

Wolf Hunt

March 15, 2000

photos by

Jim Halfpenny





About a half dozen coyotes during the day.  
Nice sunset over the show.

Seen at a distance, a coyote is often about the length of the diameter of a big lodgepole pine.

Mar. 16, Thursday. Up at 5.00, out at 6.00 a.m. at daybreak. Temperature 0° F. Up the valley, but no wolves, and none on the radio. They were unable to locate the Druid Pack. Nice day, cold.

Red fox, seen walking across, up from the river. He crossed the road and went on up the hill. This is the first fox I have seen in Yellowstone. (But I did see one toward Cooke City, with Jane, May 29, 1998, see there.)

The red foxes here are native. Elsewhere, they are often introduced from Europe, for fox hunting.

We walked in to a bison carcass, and Jim cut a bone to check the bone marrow, indicating the state of health of the animal when it died. This bison died, rather than was killed, of unknown causes.

We drove down to Slough Creek, on a little further to Junction Butte. Three wolves from the Rose Creek Pack were seen in the distance, on a carcass. The Alpha Male # 8, an original from Canada, and two uncollared pups, now nearly grown. We watched them 1 1/2 hours, coming and going, one at a time to feed. There were about 15 ravens on this carcass, also some magpies.

Lower down, near the river, was another carcass, with three coyotes on it.

That makes this a "three canid day."

We drove back up the road a while. 2 coyotes. Adult bald eagle, nicely perched.

Coyote quite close in and the roadside, on the snow in bright sunshine.

Returned to ranch for rest stop, to find bison standing right at the outdoor toilets.

Lunch. Lecture and discussion, wrap-up about 3.00 for the wolf seminar.

4.30. Bill and I went out in Jeep. A herd of 100 bison on a hillside below the morning look-out point for wolves, at Junction Butte. No wolf activity.

40-50 elk. half dozen coyotes.

Drove up toward Soda Butte. 2 bighorns. 20-30 elk. No wolf activity. We saw the fox again on our return, about dark.

The group staying over cooked lasagna for supper.

Mar. 17, Friday.

Up at 5.00, out at 6.00 a.m, daybreak, with Gene Ball, even though his seminar had not yet officially started.

Four inches of snow during the night, and pretty dim, and low visibility as we set out. We drove up toward Soda Butte in low visibility and blowing snow. Elk, bison in winter snow, their fur much frosted over and wintry looking.

No wolf activity. Drove back down to Slough Creek; weather cleared considerably. Drove past Tower Junction and on to Hell Roaring Fork and broad overlook. Several coyotes and dozens of elk at a distance. No wolves.

Returned to Slough Creek and walked a quarter mile up a knoll. There we saw 7 wolves in the distance. Eventually I saw two more. Rose Creek Pack.

8M, gray. 18F, the dominant male and female. 162 gray. Also 7 black wolves, total 9 wolves. These were about a mile out, but on the snow and nicely visible in the scope.

I watched them 2-3 hours, and eventually got nine in my scope at one time.

Nice howling of the pack for 30-40 seconds, heard well even at this distance. I could see one with its head up, howling. First time I have ever seen them howl (though much better was to come). Is this the most I have ever seen at one time?

2-3 coyotes also seen here, including one that walked by, and yipped, within 25 feet of us.

Bill went back with the group in the van, and brought the Jeep down and picked me up.

Returned for lunch.

Gene Ball, Wildlife Observation class, started 1.00 p.m., after lunch.

Participants:

William Forbes

Chris Kelsey and son, Adam Kelsey. He does real estate.

Jerry and Joan Kulm, College Station, TX. Stocky. He teaches math or math education at Texas A&M University

Jack and Lois Nichol, older couple from Billings.

Barbara O'Grady. Littleton, CO, a geologist originally, but now supervising some hydrology projects.

Holmes Rolston

Steve Sisk, Lakewood, CO, works for the Env. Protection Agency

Charles and Carol Sternau, and children, Chandra, in college, Christopher, about ten. Woodlands, TX. A Texas family. He is with a firm that makes batteries that operate at low temperatures, including those that go in the wolf collars.

Janice Williams, Colbert, WA, dental hygienist, continuing from the Halfpenny class.

Lecture on optics.

Back out at 5.30 p.m., and drove up to Soda Butte. Elk. Drove down to Slough Creek. Others walked up to see the wolves from the knoll, but it was nearly dark, and I stayed in the van, having

seen them already, all nine of them, for some hours earlier in the day. They saw four wolves.

Mar. 18, Saturday. Up at 5.00, and out at 6.00 a.m., at daybreak. No snow during the night. Up toward Soda Butte, and we spotted four wolves lying in the snow, fairly close in. We watched them from the van an hour. Great sighting, and I could pretty well use the scope inside the van, propping it against a window. Eventually they all howled and I had all four with heads up, howling at the same time. They were up and down, and walked around a bit, and then went back to lying down. (Gene took various pix with my 400 mm. lens.)

Wolves were 21M, Black, the Alpha male of the pack. 40F, and two grey pups, now nearly full grown, neither with a collar.

Eventually, they walked up into the woods and out of sight.

We drove to Soda Butte, and we were watching a bald eagle, when we heard the wolves howl again, this time from the south side of the road and river. We returned and saw three across the river, and watched them in scopes, 40 minutes. We never saw the fourth, but eventually there was howling answering back and forth from both sides of the road.

Nice tracks at the pull out (pix), and tracks in the snow. (pix of Bill and tracks; pix of me and tracks).

Drove back down toward the ranch, and watched the bighorns.  
Barrow's goldeneyes (ducks) on the water, frequently seen.

Otter slide seen on the river in the snow (otters not seen).

In the Druid Pack, we saw four. There are another four, missing here. But they had picked up signals of three of these on the south side of the road.

Break at the ranch.

Then drove back down to Slough Creek.

Mountain bluebird

2 coyotes crossing the big bridge over the Yellowstone River, which we watched some time, close up.

We drove to Hell Roaring Fork and scanned elk and bison in the distance. Some had seen mountain lions from here in the day time a few weeks earlier.

Returned to the Lamar Ranch. Lunch.

Afternoon. We snowshoed to Specimen Ridge (below Slough Creek). We passed an old bison skeleton in the snow, and also saw antlers, newly shed.

Mountain bluebird.

Returned to Ranch.

About 5.15 p.m., we drove up toward Soda Butte, saw several coyotes, bison. We watched one wolf across the river, about half an hour, some distance away, but plainly seen.

Drove up toward Cooke City, looking for bear tracks.

Barrow's goldeneyes.

Bighorns, at dusk.

Returned to ranch.

Mar. 19, Sunday. Up at 5.00, out at 6.00 at daybreak. Saw all eight wolves of the Druid Pack at or near the bison carcass (where Jim Halfpenny had cut the bone to inspect the marrow). There were two or three on it and six or eight up the hill a bit. The lower ones were quite close (as these sightings go).

There were eight bull elk on the ridge above the eight wolves. Nice sight.

We watched them half an hour or more, and they eventually disappeared. It was now snowing harder. Later, we watched one disappear, fading into the falling snow. Nice sight.

dipper.

Returned to the Ranch.

Out again, but the wolves were gone.

Dipper. Clark's nutcracker. Junco. Unidentified sparrows, or siskins.

Drove past Soda Butte, and returned. Several coyotes. Dipper on snowbank and then in the water.

Watched coyote at length, adjacent to the river, eventually howling. Nice in the falling snow, a wintry scene.

Returning, the wolves were asleep in the distance, all eight, but none moving. Just black blobs on the snow in the distance. John Varley was here, also Rick McIntyre. I tried out a Canon Image Stabilizer binocular, 15 x 45. Works well.

Back to the Ranch. David Strong and party in two vans from Rocky Mountain College were at the ranch.

Lunch.

Heavy snow after lunch, blowing in drifts. I found it hard even to walk to the cabin. Then it slacked off and we went out. We drove to Cooke City on a very snowpacked road. Deep snow toward Cooke City.

Nice elk in the snow in the way back.

Returned to the Ranch, then out for the evening watch. The road had been cleared and plowed, still snowpacked.

elk, some sizeable groups

bison

bluebird.

We had intended to drive in to Gardiner and hear David Mech, wolf expert, but Gene thought the road would be too slick coming back after dark. So we gave it up.

Mar. 20, Monday. My shoe strings and boots were frozen to the floor. - 6° F.

Drove up toward Soda Butte. No wolves. Elk. Bison. There was an elk carcass right at roadside, a presumed road kill, though there were wolf tracks around it.

Drove down toward Tower Junction. Good sun dogs at Tower Junction.

Then on the Hell Roaring Creek overlook. There were 8 wolves, the Rose Creek Pack, at much distance. 1 1/2 miles, where they had made a kill the previous day.

We watched 3-4 of them harass several bison, for 40 minutes. They kept following them, but then the bison would turn and chase the wolves back a bit. David Mech and a group with him were present and watching, so I watched wolves with David Mech! Nice day. Returned about 10.00 a.m.

Early lunch, corned beef hash, and packed up and got out of the kitchen. David Mech's group was coming in. Went off for a last cruise.

2 common mergansers  
24 Barrow's goldeneyes.

Adult bald eagle, perched in tree with five ravens.  
The carcass roadside had been moved by Park personnel.

Packed up and left the Ranch about 1.15 p.m.  
elk. bison on the way out. A few antelope.  
16 bighorn ewes in the canyon between Mammoth and Gardiner. We got out the scope to see them.

A few mule deer in Paradise Valley.

Reached Livingstone.

24 antelope.

About 6 whitetail deer, roadside.  
The Montana valley (I-90) was snow free, though there were a couple flurries en route.

Reached Billings, 6.00 p.m.

Mar. 21, Tuesday. Up at 5.30 and out. Drove east and south, home

215 antelope during the day, the biggest group with 45.

The landscape was sometimes clear of snow, and often recently snow covered, about 2-4 inches, from a snow storm the previous day.

Blue skies to Chugwater, and then cloudy and foggy. Stopped in the saddle museum in Sheridan.

Colorado had had a storm the day before. The Denver airport had planes icing up in the air above it, and 125 flights had to be cancelled.

6 white tailed deer roadside  
1 pheasant

Reached home, 4.45 p.m. Drive 527 miles, Billings to Ft. Collins.

Great trip.

April 17, 2000. Monday. Morning in the Congaree Swamp, Columbia, S.C., on a visit to speak at University of South Carolina, for Christopher Preston. Guide Morgan Melekos. This area is now a National Monument. International Biosphere Reserve. 2 miles of boardwalk, said to be the most anywhere in the U.S. Also the most extensive old growth floodplain forest in the U.S. Numerous old trees, though most of them were not. Hurricane has taken down many old trees. Big loblolly pines, tupelo, and bald cypress. Area was often dry now, with swampy regions, but the whole area, boardwalk included can often be under 4-5 feet of water.

Barred owl heard calling. Prothonotary warbler. Feral pigs. I saw three, one large sow and one piglet and one medium sized. Christopher, who saw them first, said he saw several more piglets. Watched them several minutes, including through binoculars. Then they spooked. Lots of evidence of their rooting. Lots of Leucothoe, hobble-bush. Dwarf palmettos. Pawpaw. Lots of ironwood, Carpinus. Lots of sweetgum. Lots of switch cane. Precocious flora not especially in evidence.

April 20, 2000. Thursday. Jog and walk in park area near Mary Jack's (Jackie Rolston Thompson's), Greensboro, NC. Botrychium and Jack-in-the-pulpit. Previous day, brief walk in R. J. Reynold's estate, Reynolda, adjoining Wake Forest University (where I spoke). Both forests ruined with exotics: English Ivy, Japanese honeysuckle.

April 21-26, 2000. Birmingham, AL, and then W. L. Long (granddaddy's) farm, Marion, AL. Undercover full of honeysuckle, and fencerows with privet hedge. Bobby DeYampert cut the hardwood bluff to get the money to buy the bottom 40 acres that I sold Bill Forbes, pretty much a clearcut, though they did replant with pines. Timber on the tract sold for about \$ 40,000 (divided three ways, with his sisters). Saw one armadillo, these have spread here since I was young. One possum. walked by us at the bluff and never saw us. Walked over the land that we sold Bill Forbes and Steve Griffin. The carriage house (=later garage) is still standing with junk in it, including the Delco batteries from Granddaddy's early self-contained electric light system in the 1920's. The smoke-house is still standing, though moved. The blacksmith shop is still standing; I had the anvil from it for thirty years, but returned it to Bill Forbes and his son, Billy. Jane and I slept in what was the kitchen, now a bedroom.

April 25, 2000. Bibb County Glades, near Centreville, AL, 40 miles s. of Birmingham, off county road 65. This is the area to which through Nature Conservancy I donated \$ 30,000, resulting from sale of north tract on granddaddy's farm. Guide: Chris Oberholster, from South Africa, Natal, went to Auburn, graduate student in agronomy, married to an American and now American citizen. Director of Conservation Planning and Stewardship, The Nature Conservancy of Alabama, Pepper Place, 2821 C 2nd Avenue South, Birmingham, AL 35233. Also accompanied by Bob Tate, friend of Bill Forbes, and there was a writer and also a photographer there from Southern Living.

"Glade" in this case means an open area in an otherwise forested landscape with herbaceous vegetation. Often cedars are on the edges and so they may be called "cedar glades." Discovered

as a botanical rarity in summer 1992 by Jim Allison, Georgia Natural Heritage Program botanist (Georgia Department of Natural Resources), on a recreational canoe trip on the Little Cahaba. Greatest concentration of rare plant species in any county in the temperate Southeast. Site is dry and dolomite, with high concentration of magnesium, makes it high alkaline, prevents forest growing there and discourages cattle grazing. Area is on the West Blockton East 7 1/2 minute USGS quad.

Seen: Undescribed species:

Dalea sp., Prairie-clover

Onosmodium sp., False-gromwell

Erigeron sp., Daisy-fleabane

Liatris sp., Blazing-star

Castilleja sp., Indian paintbrush

Silphium sp., Rosinweed

Federally listed and state record:

Spigelia gentianoides, Gentian pinkroot

Federally listed:

Marshallia mohrii, Mohr's Barbara's buttons

Longleaf pines, some in "grass" stage (young trees a foot or so high).

Round rocksnail, Leptoxis, seen in creek, a rare one here. Also various mollusks, freshwater snails. Louisiana waterthrush, Eastern kingbird, yellow-rumped warbler.

Other species seen: Phlox, spp.; Rhus aromatica, Croton alabamensis ?; Ansonia ciliata, Red buckeye, Trillium stemaum; Mountain laurel, in bloom; Cross vine, hawthorn, Red honeysuckle, Lonicera sempervirens; Ebony spleenwort; Hydrangea quincifolia, Salvia utrica, Nettle-leaved mint.

Story by Jennifer Greer, "A Lost World," Southern Living, May 1999, p. 38.

Then drove to nearby area, below Piper's Bridge, area to become a wildlife refuge. In the river, lots of Cahaba lily, Hymenocallis coronaria, lily endemic to the region. Not in flower, grows out in the middle of the river, and candidate endangered species.

After lunch, drove to Barton's Beach Preserve, this one in Perry County, near the Marion Fish Hatchery. An oxbow lake left over from the Cahaba River. Bald cypress and Spanish moss. Unusual Trillium here, Trillium lanceolata. Preserved mostly as riparian area, with unusual fishes.

Longleaf pines, near firetower in northern Perry County. One wild turkey in field.

April 28, 2000. Prairie State Park, Liberal, Missouri. On trip to Pittsburg, Kansas, Rising Lecture at First Methodist Church, Don Viney, Philosophy, Pittsburg State University, main host. Hosts on Prairie Park trip, F. Victor Vic" Sullivan, former Dean, School of Technology, Pittsburg State University and active with Nature Conservancy. Also William Vance, music.

On drive out, which takes you across nearby state line and into Missouri, many areas in the region are old strip mines of coal, now revegetated with forests, not original but with trees that are native to the region, often with ponds or lakes at the bottom of the pits. Coal here is high sulphur coal, and, oddly, the power plants here, once built right on the coal mines, now burn Wyoming coal, brought in by trainload, since this is cheaper than cleaning up the air from the coal they could burn from here.

Reached the park. Nice prairie park, with good visitor center. Watched two merlins, female and male, with good views, perched on power lines, and flying into grasslands to feed and returning. Best views of merlin that I recall, especially of the female.

Brown thrasher, mockingbird, goldfinch, cardinal, lots of meadowlarks, here Eastern, Eastern kingbird. This is unplowed prairie.

The Prairie Park has a herd of bison, with seven calves this year. The herd has been here a long time, though a prior herd got brucellosis, was destroyed and replaced with this one.

Walked about 1 1/2 miles on prairie. Grassland with some low shrubs, dwarf or winged sumac, Rhus copallina. Blackberries. Flowers seen: abundant Wild Hyacinth, Camassia schilloides, abundant Yellow Star Grass, Hypoxis hirsuta, Lousewort, Pedicularis canadensis, Indian Paint-brush, Castilleja coccinea. violets. False garlic, Nothoscordum bivalve. Lots of Spring Beauty, Claytonia virginica. Nice display of wildflowers. Coyote heard barking and yipping.

Back in town toured the home of Ted Sperry, deceased, longtime botanist here, and wife Gladys Galliger, friends of Aldo Leopold, with wildflower and wild area in his backyard. Donated home and wild area as pocket nature preserve to the University for the city. Osage orange, Maclura pomiforma, is native to the region, maybe not native exactly here, was long planted for fence rows. Seen, with characteristic thorn at base of bud.

April 29-31. 2000. Minnesota. The Inn at Maple Crossing, Maple Lake, Mentor, MN. Old restored inn on lakefront, which also houses: The Woodside Center for Interdisciplinary Studies. Jim Thomasson, owner, host, also the philosopher at nearby University of Minnesota at Crookston, formerly 25 years at Georgetown University. Flew in to Grand Forks, ND, 60 miles away.

Rivers all flow north here, out the Hudson's Bay. Main river at Grand Forks is Red River of the North, i.e. Red River flowing north.

Little out, no leaves on trees, though some buds opened up with leaves a half inch out. Birch, basswood, maple. Loons calling on the lake. Cool, light rain in morning, sunny to party cloudy in afternoon. Only thing out in the woods was Amenome quinquefolia, Wood anemone. A gopher had been actively seen in the yard; they saw him throwing out dirt. Tree swallows over the lake in considerable numbers. Two trumpeter swans nesting in cattails in sight of the inn, though I didn't see them.

### Backroads China - 2000

May 5, Friday. Left Ft. Collins, 3.00 p.m., left Denver 6.46 p.m.

In a rush to get Jim Sterba paper and Yellowstone paper off, revised, in the last hours.

May 6, Saturday. 12.45 a.m. Left San Francisco on Cathay Pacific, Boeing 777.

About a 15 hour flight to Hong Kong, really dark all the day, as we were flying away from the rising sun.

Reached Hong Kong, now with a new airport, about 7.00 a.m. Hong Kong time, having crossed the date line, and this being:

May 7, Sunday.

We crossed the dateline and essentially skipped Saturday, May 6, only had 45 minutes of it. This was one long night, about 20 hours long, from about 8.00 p.m. Friday night in San Francisco, to 1.00 a.m. take off, then 15 hour flight, dark the whole flight, until about landing in Hong Kong. I never saw daylight on May 6.

Wait all morning in the airport.

The group:

James and Sandra Aberer. Diablo, CA. Jim and Sandy. Retired, he manufactured dry ice in California.

Larry Boersma, soil science. Oregon State University, knows Peter List. Wife Carole Boersma. Their wives are good friends.

Josef Brunner, San Francisco, CA. He was a technician on photocopy machines. Born in Switzerland, widely traveled, spoke with considerable accent.

Robert Doty. Retired, was research in neuro-physiology, two halves of the brain. University of Rochester Medical College.

Charles Gregg and Elizabeth Gregg, Los Alamos, NM. He had done medical instruments using radiation.

Sheila O'Brien, Sebastopol, CA.

Margery Hall, Rockville, MD, sisters, though not at all look-alikes. Margery had white hair, had studied in Japan, Taiwan, and knew some Chinese.

and their mother:

Elizabeth McCarthy, San Francisco, CA

Robert Jones, Harvard Medical School, and University of Rochester Medical School, mostly a researcher on lung cancer. Rochester, NY.

Tom McCreary, San Francisco, CA. Insurance.

Laurie Hibbard, Kensington, CT, medical technician

Jerry Olsen, Elizabeth Olsen. Lenoir City, TN. An Oak Ridge, TN ecologist, and the most knowledgeable botanist on the trip.

Robert Schurtz, San Francisco, CA

Paul Toch, Lyn Toch, Vallejo, CA. Radiology.

and me.

Trip Leaders:

Eileen Walsh, Ph.D. candidate in anthropology, Temple University. See later.

Wang Zhijun, Kunming Institute of Ecology, Kunming, Yunnan, China. Not met yet.

China is the production house for new strains of influenza virus. Crowding, unsanitary conditions, and proximity to ducks and pigs. Lonely Planet, China, p. 144.

1.00 p.m. Dragon Air flight from Hong Kong to Kunming, on an Airbus.

Kunming is the capital city of Yunnan province, situated in the center of the eastern Yunnan plateau, on a large plain. South of the city is Lake Dian, a big lake.

The province is on a tableland, high, with an average altitude of 1800 m.

The plateau is often divided by deep river valleys and high mountains, which makes large-scale agriculture difficult. Owing to the height, the temperature of what would otherwise be a semi-tropical region is tempered. Kunming is known as the Spring City, because the temperature remains pleasant virtually throughout the year.

Yunnan means "south of the clouds," the clouds being those in Sichuan province, to the north, often misty and cloudy.

Kunming is nearly 6,000 ft. high.

Checked in Green Lake Hotel, a nice hotel.

May 8, Monday.

Trip to Western Hills, hilly or mountainous area 15 km. s.w. of the city, with view overlooking the lake.

peacock - a popular bird here

green peacock is native here, or was.

The average income is 1,000 yuan (= \$ 125) per month.

We are driving west on the Burma Road.

There is a big tobacco industry in this region. Half the population of China smokes.

Farmers are finishing up the wheat crop and now planting rice, also potatoes.

2 Buddhist temples

Taoist temple here.

There is a large lake, Lake Dian, between the Western Hills and the city, the largest freshwater lake in the province and 6th largest in China.

Visited Hua Ting Temple, Buddhist

cypress, Cupressus duclousiana

ginkgo

Chinese flowering crabapple

Visited San Qing Ge Temple, Taoist

Pinus yunnanensis

Pinus armandi

Then we walked up steps to the Dragon Gate. There is a climb up steps carved in the rock face, often with small temple areas carved in the rock.

The steps were cut by a Taoist monk and coworkers, 1781-1835.

afternoon:

Kunming Zoo

Saw red pandas, Ailurus fulgens, rather like raccoons

white tiger (light tan and stripes)

Siberian tiger, a huge animal

Bengal tigers

Giant panda. The keeper let us in for a special showing. There is only one here, a female. Another, a male, has been sent elsewhere to see if he will breed.

wolf

It is rather sad to see all these animals in cages.

On tigers in China, see Lonely Planet, p. 503

4 subspecies

two of them in Yunnan

Indo-China tiger, Panthera tigris corbetti, maybe 10 of these

Bengal tiger, maybe ten of these.

Dinner

Across-the-bridge noodles. See story in Lonely Planet, p. 820.

This is thin chicken cooked in a hot broth. We were served chicken in an earthenware pot, with dancing girls.

May 9, Tuesday.

Visit to the Stone Forest. We rode a narrow-gauge railway to Li Liang, and thence on a bus to the Stone Forest. 126 km. s.e. of Kunming.

Left on train 7.30 a.m., a fairly good train as Chinese trains go, not too crowded. Too much smoking, but I could open the window wide.

The French built the train to link Hanoi in Vietnam to Kunming.

There are two seasons here:

(1) Dry season. There is no rain October thru April. Maybe 1-2 small rains.

(2) Wet season, end of March thru September. They put in wheat February thru April, then put in rice in the wetter season.

In the winter they grow potatoes and corn. Growing is going on all year long.

The trip was a scenic rail ride over rather denuded hills, largely deforested and eroded.

Reached Yi Liang, 10:30 a.m.

Passed lots and lots of rice, now being planted in big fields, paddy rice (as opposed to terraced rice on hillsides).

This is on an upper tributary of the Po River.

Getting off the train, there were women planting rice, quite near the downtown area (pix).

Met by a bus, and reached Stone Forest (Shilin), an area of karst limestone formations. There are extraordinarily tightly packed pillars of grey stone, weathered into fantastic shapes. The pillars were apparently formed under the sea some 270 million years ago. But the geological interpretation here is pretty slim. Mostly the Chinese like to find similarities in the rock formations to birds kissing, or baby water buffalo, or whatever, anthropomorphic interpretations.

Walked around the village.

Lunch.

Walked through the Stone Forest. Spectacular formations, but too crowded with Chinese tourists and their guides, with hand-held loudspeakers turned up too loud.

The people here are Sani (or Hani) people, a minority.

Back on the bus. Stopped briefly at a cave, but no lights, so we could not go far in.

Dinner at a Muslim restaurant in Kunming.

The "Flying Tigers" landed in Kunming, as did those who flew in supplies "over the hump" from India.

Evening lecture by a woman, Chinese sociologist, with an M.A. from Oberlin College in U.S., where she spent six years. Excellent English, and she handled questions well.

She was asked whether Chinese kill their girl babies, especially under the one child per family policy. Statistically, about 8 female babies in 100 seem to be "missing" in rural China.

"Chinglish" - the funky English you so often see and hear in China.

May 10, Wednesday.

Trip toward Dali, two days, 250 km airline miles, but 11 hours drive, so we took two days.

We spent a few hours downtown, in a market, and I went with David to a bookstore. Well-developed downtown, lots of shops, and office buildings. Clean streets.

Off on the bus, driving across the Yunnan plateau.

Many eucalyptus trees were planted roadsides in the 1950's. This is now considered a mistake. They are native to Australia. Lots of tobacco growing here.

We traveled on the new Burma Road, more or less parallel to the old Burma road, used during World War II. During World War II, the Burma road was the only way the Allies could get supplies in to China. The road was half built before the war and finished in 1937, in 9 months, with 2,000,000 people working on it, with virtually no equipment. It was 959 km. long, a tough drive. Half the drivers lost their lives, often strafed by Japanese airplanes.

But the Burma Road was closed in 1942 when the Japanese took Burma, and then "over the hump" flights started. My first cousin, Lucius Lee deYampert, was a pilot over the hump, killed in a take off in an overloaded plane. He knew the plane was overloaded but volunteered to fly it anyway. Killed Jan. 11, 1944. Buried first in Karachi, India, later reburied in the Military Cemetery, Mobile, AL.

The flying tigers were under Gen. Claire Lee Chennault (1890-1958), had a career in the U.S. Army Air Corps, resigned 1937, to become air advisor to Chiang Kai-shek, formed the "Flying Tigers," widely acclaimed for protecting the Burma Road against superior Japanese forces, 1941. Used a lot of volunteers. Named general in the U.S. Army Air Force, commanding U.S. Air Forces in China, 1943-45. The Flying Tigers had lots of air bases scattered around they could use.

Joseph Stilwell (1883-1946) of U.S. Army, not an airman, was appointed by Chiang Kai-shek chief of staff in the China war theater, 1943-45.

We stopped at a roadside pullover, overlooking fields. There were many rice fields and water buffalo plowing (pix). Others were planting rice. Some were harvesting wheat. Some were harvesting fiber for rope.

Platyclandus orientalis, looks like red cedar, blue berries.

The buildings in the villages are often made of pounded earth.

Lots of watermelons for sale in the fields. Where did watermelons come from? Later: Native of Africa.

Bamboo, along the river side

400 species of bamboo in China, 200 in Yunnan Province.

Farming is now under the "responsibility system," a new system where the land is assigned to a family, who share crop it, part of the crop goes to the government and the rest is theirs.

Lithocarpus, a deciduous tree that will replace the pine, related to oaks.

What is called tan oak in California is in the same genus.

reached Chu xiong (pronounced chew shong) in an autonomous area, or minority region.

We spent the night here. Fair to mediocre hotel.

There was dancing in the streets at night, and this is said to happen every night. Mostly youth but also an older group. They were dancing to songs from the cultural revolution, praising Mao, though also said to be celebrating the Yi culture.

Yi - a minority people, in various groups, stereotyped as poor, lazy, thieves.

They make arranged marriages, while the child is an infant. If the child or her parents later withdraws, they have to pay.

May 11, Thursday.

Breakfast, 8.00 a.m., too Chinese and not much good.

We left town on the old Burma Road.

Drove into mountains, Zixi mountain area  
Zixi Shan, Purple Mountain Forest Park  
We stopped roadside, halfway up the mountains.

Yunnan plateau (pix)  
rhododendron  
various pheasants are here, none seen  
some deer are here, none seen

Reaching higher country, we stopped at a ramshackle resort, with a Bigonia garden.

Pseudotsuga forrestii, a conifer we first couldn't figure out and later did. Seen later in museum in Zhongdian, with large cones and with the characteristic mouse-tail bracts - like Doug-fir, Pseudotsuga in the U.S.

Continuing on the bus, we then reached another area and stopped to take a walk through the woods, unable to go as far on the bus as the guides had expected, owing to some road construction.

Pinus armandi, like a white pine  
The ground in these forests is much dug up by pigs.

Schima noronhae, like a rhododendron.

The woods are quite dry. This must be the Himalayan/Siberian pattern of no rain in winter, and the rains don't come until late spring.

good Pinus armandi, maybe 20-30 years old.

Various birds singing.  
One with a warbler-like call

various broad-leaved evergreens

low wildflowers, presumably constrained by lack of moisture.

Bracken? some fern, like a bracken.

One woman in the party fell and cut her arm.

Back on the bus, we descended from the mountains, and back on the Burma road. (pix)

lunch

After lunch, I walked to market, lots of local foods (pix)

Back on the bus, and driving a good highway

rolling mountainous country, with rice paddies at the bottom and terraced as far up as they can.

56 minorities are recognized in China, though 400 groups applied to be so recognized. The resulting government groupings (by the Han majority) often made little sense, though sometimes the groups forced together made some alliances.

In the Great Leap Forward, 30-60 million people starved, an agricultural disaster, a mixture of droughts and Beijing authority.

The minority groups are only 6% of the Chinese, but their territories are 60% of the landmass, with lots of forests and coal.

5.00 p.m., reached New Dali, and left the Burma road.

On to Old Dali, tourist city, spectacularly located beneath Cangshan Mountains = Azure Mountains, and near Erhai Lake.

Geologically, Erhai Lake is in a graben, a down-dropped fault zone area.

There are 19 peaks here, averaging 4,000 meters, 13,000 ft., and 18 streams.

May 12. Friday

breakfast

guide is Maria, a member of the Bai people, a local minority.

1,900 meters high

400,000 people, Bai people

some human activity here is traced back 4,000 years.

There is a medical college and a teacher's college.

The highest peak is 4,122 meters, with snow all year round.

I saw some snow, but only a little, in the highest mountains.

pagoda = stupa in India.

We visited the 3 Pagodas, a little north of Dali.

Chongsheng Sanda

The tallest pagoda here is 1,200 years old (824-839 A.D.), 69 meters tall 230 ft. (pix) (Football field is 300 feet.) The two smaller ones are 1,000 years old. Central one is the oldest.

These are among the oldest standing structures in s.w. China.

Visited a Buddhist temple beyond, but a new one (pix).

Older and derelict temples here were torn down during the Cultural Revolution, but were subsequently rebuilt as tourist attractions.

Then we visited a reflecting pool, and marble factory (pix).

Then visited another Buddhist temple, Guanyin Temple.

A ring around the sun was quite prominent.

Went by bus and climb to Gentong Temple.

We ate a picnic lunch there.

Then we took a 3 mile walk in forest on Qingbi Trail  
Cryptomeria fortunei, like Auracaria. Check it out.

Deutzia rehderiana, a Hydrangea. Opposite-leaved, pink.

Pyracantha fortuneana, white, a Pyracantha native to Yunnan. Red berries seen in a picture of it in a book, only white flower seen in the wild here. Rosaceae.

common pheasant, Phasianus colchicus. Two flew overhead, so I did see pheasants native to China.

tea plantation (pix)

maize and tombs (pix)

Watched a woman with baby on her back, loading rocks onto a truck (pix)\_

cuckoo calling, Cuculus canorus.

The guide pointed out a patch of marijuana growing.

dinner

After dinner we went to a Chinese classical music orchestra. (pix)

A woman in the party fell, cut her forehead, and had stitches. She gave a good report of the care she got.

May 13, Saturday.

We took a boat ride across Erhai Lake. Erhai is a sizeable lake, 41 km x 3-9 km. wide. Ear-shaped, and part of the Mekong River system. "Erhai" means "ear."

The fisherman here use cormorants to fish.

Formerly, prior to 1930's there was quite a bit of opium grown here.

On the boat, we reached a village on an island--a Bai peoples' fishing village. We visited a home, said to be a rather wealthy one.

Then we visited a temple site, said to be to local gods (pix of old man with beard).

We visited a school, but since it is Saturday, there were no children.

Schoolrooms were pretty basic - chairs, desks, blackboards, nothing else.

Walked back to the market, selling everything.

fish, alive and dried,  
fresh eels, alive  
various shrimp  
mantis shrimp  
potatoes  
mussels  
larvae of dragonflies  
(pix of house construction)

pix of young woman and baby, washing shoes

We returned on the boat.

There were some nice looking homes along the bay front, even a satellite TV dish.

Then we took a chairlift to Zhonghe Temple, over a hillside of tombs and pine trees.  
We ate lunch at restaurant on top, in open area.

They served ferns, fiddleheads, as one of the vegetable dishes for this lunch. I have had them several times earlier.

Also lichens, variously served.

Took a walk along Cloud Road, a high, horizontal, cobblestone path, a spectacular walk, and the nearest thing I have seen to native vegetation yet.

The trail is said to be 8 years old, though it looked older.

Populus

both pines

a Saxifrage

A woman participant got sick and was taken down the chairlift to a hospital. She had eaten too much fiber. She had an IV and shots, and gave a good report of the care she got.

The highest peak in Yunnan is Kagerbo Mountain, peak of the Meilixueshan, 6,740 meters = 22,112 feet.

Rosa multiflora grows wild, native here (as it also is in most of China, Korea, Japan).

33 rhododendrons listed in the flower book (Guan Kaiyun, Highland Flowers of Yunnan, see bibliography). Pinks, whites, reds, purples, some yellow.

Quite a number of gentians.

Gentiana

Primula

Verbascum thapsus, Mullein, native here and most of China.

Hemerocaulis fulva, Day lily, native here and in much of China ?, throughout Asia, Europe.

lots of Pedicularis

Corydalis

530 species of Rhododendron, and 200 species in Yunnan

15,000 species of higher plants in Yunnan.

This is one half of the 30,000 species in China, though the province is only 4% of China's land area.

The mountains are somewhat scarred by marble quarries, but not too badly.

May 14, Sunday.

Drove off on the toad toward Lijiang and Tibet.

I saw some trucks with quite large logs on them, bigger than any trees we have seen.

Allegedly, they don't cut trees like this any more.

We passed endless rice paddies and wheat fields.

Visited a village, Zhou Cheng. There we visited a workshop for cloth patterns, made by tie dye process. They sew stitches in where they don't want the dye to reach. Then they dye it, and then take the stitches out.

I bought 4 mats for Shonny. (pix)

We walked around in the village center. They were threshing in the village center, quite rustic. They had some machines, but a lot of the work was by hand. (pix)

There were two huge fig trees in the village square. Ficus lacor.

Leaving the village, there were lots of rice paddies, with a thousand peasants working in them.

Then there was a steady climb over barren landscape, only scrub growth.

Excellent road.

Then descent.

Generally, there are three times as many people here now as at mid-century.

Passed various sleeper buses. You have a bed about 24 inches wide, quite crowded in. Eileen has ridden on these.

Lots of tobacco being planted.

Lower down there were some forests, and then, higher, reasonably good pine forests.

Lunch in a village.

There are two roads into Tibet for foreigners. (1) This one, newly opened. But you have to have a package tour. (2) A road from the north is more open.

Or you can go in from Nepal.

Continued the afternoon drive.  
More climbing and dry landscape.  
The wheat here isn't ripe yet.

Reached Lijiang.

Lijiang is north of Dali, bordering Tibet, set in a beautiful valley. There is an "old town," the center of tourist attraction.

Lijiang is at 2,415 meters = 7,923 feet.

The highest peak here is Jade Dragon Snow Mountain, = Yulongxue Shan = Mt. Satseto, 5,596 meters, = 18,359 feet. It was first climbed in 1963 by a team from Beijing.

There was a 1996 earthquake in Lijiang, over 7 on the Richter scale. Over 100 people were killed, and after-shocks over 5 months killed 200 more.

16,000 injured.

Naxi culture

May 15, Monday

Buffet breakfast with 25-30 items, and hardly anything I wanted to eat. Settled for a boiled egg and a sweet bread.

Joseph Rock, an Austro-American botanist and explorer lived in the vicinity 1922-1949, and did botany and Naxi ethology. Wrote for the National Geographic.

Spent the morning in Old Lijiang, colorful and picturesque (various pix).  
I did some jade shopping.

We had lunch in a restaurant, not far from the Old Town.

Then, on free time, I did two hours of jade shopping. Kept trying to find big enough jade bracelets to go on over Jane's hand/wrist (only, alas, to find out when I got home that she had given me measurements too big, and could have used smaller ones).

Then back to the hotel.

Bus tour out to Naxi museum, on edge of town.

There were examples of an old pictograph text and some sacred scriptures, said to be readable by only a few shamans (= dongas)

Then we took a walk around Black Dragon Pool. Pleasant, rather crowded. Lake with trees and gardens. We could get a look in the distance at snow covered mountains from here, into which we are headed tomorrow. (Later, but alas, bad weather by then.)

They promote the connection of this area with Shangri-La, and claim that James Hilton drew his inspiration for Lost Horizons (1933) from Joseph Rock.

Dinner.

Musical performance with orchestra and dancers. Naxi music and dance.

The center of attention was a dongha (shaman) named "He quo hua." He blew some horns, played two of them simultaneously with two notes that blended. And did some other ceremonies. Very colorful.

I took flash pix and set them later to Sandy Aberer.

May 16, Tuesday.

We had breakfast, then took off to the mountains.

Drove across a flat, dry plain, with mountains on either side, overcast.

Then a lot of climbing across dry, barren mountains.

Yak = Yak-cow hybrid

Then drove into more forested meadows, rhododendrons often in bloom.

These are the Tibetan borderlands of classical China, though Tibet is now, of course, in China.

There was a good road, first blacktop, then good cobblestone.

Pinus densata, 2 long needles

More and more rhododendron in flower as elevation rises.

a fir, Abies delavayi

a spruce, Dragon spruce ?, Picea likiangensis, presumably the species name is Latinized Lijiang.

Then we rode a chairlift up the mountain.

lichens, like an Usnea, to 6 inches long.

Quercus panosa, an oak prominent on the mountainside, with thick, leathery leaves.

Goats grazing on the hillside.

Reached the end of the chairlift, and took a walk on a long boardwalk. This was an elaborate boardwalk, of sturdy timber and recently built, partially yet unfinished. They call the summit, more grassland than forest, a meadow. The name of the meadow is Yuan Song Ping.

We had been given a bag lunch, and ate lunch on top, ending in rain and cold weather.

We walked back on the boardwalk in the rain.

Passed a yak herd. (pix)

Then took the chairlift return.

Got back on bus, and drive back to town.

En route, the guide pointed out the location of an old Flying Tigers airport.

En route back to town, we visited the Yufeng Lamasery, or Monastery. This is a Tibetan style monastery. There is a camellia with 10,000 blossoms (now not in bloom). The tree is really two different species of Camellia, entwined, one the original stock, the other a graft. The tree is said to be 500 years old, though another book says from 1700. Redflower camellia (Camellia reticulata) is the stock and Lion's Head Camellia the graft.

We visited another village, Bai Sha, or Baisha, which means "white sand." Famous frescoes, Buddhist themes, 600 years old. Lonely Planet, p. 854.  
Various pix of dancing girls, Naxi.

This was a good day in many respects, though disappointing weather, and the Dragon Jade Snow Mountains were never seen, though we saw them at a distance from town the two preceding days.

I am steadily nursing a sore heel, but managing.

Lots of planted pines.

The Chinese eat anything that flies, except airplanes.

The Chinese eat anything that has legs, except tables.

May 17, Wednesday.

Rainy day. Breakfast. We are headed toward Tiger Leaping Gorge.

I walked to town briefly. Bought a converter plug and some candy.

Off on the bus.

There are catalpa trees in the villages.

We drove through Valley of the Yangtse River, mountains with clouds. (pix)  
Lonely Planet spells it Yangzi.

The Yangtse makes a near 180° turn here. The river flows south, then north, parallel to itself returning.

The Yangtse is the third longest river in the world, after the Nile and the Amazon. It flows through 13 provinces.

Half of China uses it. But it might as well have flowed out into IndoChina, like the other two, the Mekong and the Solween, that flow south.

The three parallel rivers are the Solween, the Mekong, and the Yangtse, hardly 50 miles apart.

Stopped for picture at first bend of the Yangtse, the major turn where it departs from the other two rivers.

At the bend there took place a big slaughter of Naxis over the Tibetans in 1548. They routed 200,000 Tibetans and decapitated 3,000 of them.

The Red Army fled from the Nationalists here, the Long March, in 1934, and 100,000 men. Most crossed elsewhere, but 18,000 crossed here, on a 3,750 mile flight.

Drove along the side of the Yangtse River. Crossed the Yangtse River on a bridge (pix).

Then drove along the river side on the other side.

Lunch in a town, formerly called Qiaotou, but now calls itself the "Tiger Leaping Gorge" town, Hutiaoxia.

The gorge is where the Yangtse River flows through the gorge between the Jade Dragon Mountains and Haba Shan mountains (5,396 meters), and so the gorge is 3,000 meters (10,000 feet) deep, one of the deepest gorges in the world.

We drove down the gorge on a road cut into the gorge side, and then walked around the gorge high above the narrowest point, in a drizzle. Below is "Tiger Leaping Rock," where, supposedly a tiger could leap on the rock and make it across the river.

This is a spectacular gorge and disastrously marred and disfigured by a recently built road.

And then, worse still, a competing road has been built by the other prefecture on the other side. It makes you weep.

Return on bus, back up the road to "Tiger Leaping Gorge" town.

Then on, with lots of walnut trees along the roadside.

Took the road towards Zhongdian

We drove up a spectacular canyon.

Lespedeza, a pink-purple flower, in great bloom

More rhododendrons.

Cotoneaster buxifolius, a shrub on the roadside.

Some quite large spruce.

This is a Tibetan area; there are Tibetan symbols on the trucks coming by.

And some prayer flags and stupas.

Then we reached a flatter area, a wide valley, the Tibetan plateau.

Then some hills, often spectacular with rhododendron.

Also a low shrub over open areas, another rhododendron, Rhododendron fastigiatum.

Quercus monimotricha, a shrubby oak, mixed in with the shrubby rhododendron.

The road degenerates considerably, being built in places and is sometimes barely passable.

lots of yaks = yak hybrids.

We reached Zhongdian, 6.15 p.m. The earlier name for this town was Daven.

The climate is influenced by southwest monsoons from the tropical Indian ocean and by the southwest monsoons from the South Pacific Ocean, and by the air mass from the Qinghai-Tibet plateau.

There are twenty species of rhododendron in the area.

39 species of Camellia

Begonias.

82 rose species in China and 28 in Yunnan province

The two main species are: Rosa rugosa, rose

Rosa chinensis, Chinese rose

"Peace" is a variant of Chinese rose, and was distributed by the American Rose Society at the founding of the UN in 1945.

Cycad, Cycas, is native here. China has 15 species, and the most variety and frequency is found in Yunnan province.

See Shi Zongming, ed., Famous Flowers from Yunnan, in bibliography.

It is about 140 miles from here to the Tibetan border.

The music was so loud at dinner that I had to leave without any supper. There was a woman singing with a piercing scream much amplified, and way above my pain threshold. My requests to turn it down were spurned.

May 18, Thursday.

rainy, gloomy day.

Decent breakfast by Chinese standards. Even had salt for the eggs!! I have been carrying around my own salt and pepper shakers, as well as my own knife, fork, and spoon. You can starve with chopsticks.

There are 12 busloads of business men/tourists in the hotel, recently built and nice hotel (except for the loud music).

Visited Songzanlin Monastery, 300 year old Tibetan monastery (in pouring down rain). (pix from distance). Lonely Planet, p. 859.

This one does have active Tibetan monks, but the numbers reported varied widely from 700 to 100, even 30 lifetime monks. Others are students, often occasional students.

We (the men only) visited a kitchen, where women are not allowed. Pretty smoky kitchen.

We went upstairs to an area where we could look down and see monks prostrating themselves, about a dozen monks. (I stole two pix, wildly guessing at exposure, 1/2 sec. 1/4 sec.)

See Booz, Yunnan, p. 149.

Eileen Walsh, anthropology Ph.D. candidate at Temple University, works on the Mosuo, or Moso, people, a branch of the Naxi people, allegedly matriarchal. Booz, Yunnan, p. 146. There are families with women and men in them, but the father of a child only comes in and stays off and on, and does not permanently reside with the woman he mates. Thus some claim they have no marriage. But Eileen says it is more like serial monogamy. The lover may stay faithful until the child is born, then go off and find another mate. Contrary to Booz, Eileen says children and adults under 40, all know the identity of their fathers.

lunch. For lunch I had chicken foot soup, broth with chicken feet chopped up in it--rather big chunks, and evidently chicken feet. I ate one to make the point.

After lunch, we visited a museum, in the pouring rain. Seemed like it might be a drag, but the museum had a good plant collection, animal collection, and I learned more than I expected.

Pressed specimens seen in the museum:

Taxus yunnanensis

Larix petaninii

Both of which I had seen in the woods.

Tsuga dumosa

Picea brachytyla

Populus bonatii, looks like aspen

Betula platyphylla, seen later

Acer forrestii

Stuffed animals:

Vulpes vulpes, fox

Martes flavigula, marten

Paguma larvata, fox or marten like animal. What is it? Later: Masked palm civet Order: Carnivora. Southern, eastern China, Malaysia, Taiwan, Sumatra, Borneo, Nepal. Lives in forests, brush, arboreal, nocturnal, omnivorous diet. Walker, Mammals, p. 1184.

Felis bengalensis, a spotted cat

Ailurus fulgens, red panda

The weather got brighter and we went for a walk through old town area, including a Tibetan Buddhist Temple.

Mt. Meilixue is the highest mountain in Yunnan, and on the Tibetan border, 6,740 m. = 22,113 feet. It has never been climbed. A team once tried and failed, although also the Tibetans in the area do not want it climbed.

2/3 of China is mountain, desert, or otherwise unfit for cultivation.

I walked around newer town, including a market, with lots of curious food, big frogs, eels, and other curiosities.

By 7.00 p.m. it was clearing enough to see some mountains with snow on them, not all that far from town.

Essentially I was cold all day, but bearable.

We went in the evening to a new restaurant in the open country, near the airport, an area being developed for tourists and business travelers. Rain returned, and the bus got stuck in the long, muddy restaurant driveway. Some of us walked out 100 yards to the paved road, and another bus picked us up, or at least half of us up, leaving us wondering how the other still down by the stuck bus would make it out!

May 19, Friday.

They got the rest back in taxis, but the bus is still stuck.

Yak milk for breakfast.

A much-too-crowded breakfast buffet. Lots of Chinese work units have been given vacation trips here. Mostly men.

Tom McCreary fell at the elevator door and cut his head. This is the fourth fall on this trip, three resulting in head cuts, one with stitches. Also 4-5 people have been nauseated, presumably from food.

Later, McCreary was diagnosed with some kind of lung infection. He continued the trip.

The day looked bleak with no bus and one in the hospital.

Bus returns about 10.00 a.m., pulled out by a tractor, and nicely washed.

10.30 a.m. Depart for mountains. Overcast, but mountains are visible.

Drive over low, short grassland or shrubs.

Snow capped mountains visible.

Gaining elevation. The whole day would be above timberline in Colorado.

A good many cattle or yak-cattle hybrids.

Then into a pine forest, secondary forest from previously cut forest.

White-necked crows

Closer to snow-line you could see rhododendron flowering in trees dusted with new snow.

More of the Quercus monimotricha, I found an acorn on one. Mixed with Rhododendron fastigatum.

Also a low Euphorbia, yellow in flower, said to be poisonous to cattle.

The claim is that Shudu Gang area has red panda, wood musk deer, red deer, tongun chicken, as rare wildlife.

Everybody seems to agree that the big commercial logging has been shut down by national government decree, since the 1996 floods downstream on the Yangtse, but that the locals continue to cut firewood, and some say this doesn't matter much.

Mountains are often heavily deforested.

Valley floor grasslands overgrazed by cattle, yaks, and pigs, sheep. A lot of pig rooting, tearing up the sod.

But rhododendron often survives, and can even cover a hillside, in good bloom.

Reached Shudu Gang Lake, 25 km. n.w. of Zhongdian. 3,705 meters = 12,156 feet.

Lunch at the Lake under crude circumstances, outside, more or less, partly inside, but surprisingly good. Ate yak meat, rather tough.

Walked across the end of the lake. Some good spruce. Some heavy moss cover.

Needle-tailed swift.

Drongo

Generally an overgrazed area, and much deforested.

A Nature Conservancy Group was here. Pete Myers, with W. Alton Jones Foundation (Cities Series Oil Co.).

Stopped on return to photograph Rhododendron rubiginosum (pix) with a scramble up a hill to do it.

Tibetans living here, cabin and women. (& pix)

There are 6 families here; they raise yaks.

They spoke Tibetan only, and our guides had a hard time talking to them.

Returning further, lower down. Visited a Tibetan village, with lots of construction going on.

Visited a Tibetan home. Large house, sparsely furnished. (pix of women on porch)

and some huge beams. But no water, and kitchen was a hearth with open fire. Courtyard in front.

gooseberry, Ribes, as a hedge/fence

Continuing toward hotel, we passed several dozen villages, all with lots of construction of houses.

Snow capped peaks on both sides of town.

Dinner, at nice restaurant in a hotel. I ate chicken feet and yak for lunch, and yak milk for breakfast.

Professor Wang thinks the chicken feet are a great delicacy and ate about ten of them!

May 20 - Saturday.

Up at 5.00 a.m. Breakfast and on the bus to the airport at 7.30 a.m.

Nice airport, 2 years old  
and more blue sky than previously we have seen.

Flight from Zhongdian to Kunming.

Some nice snow capped peaks seen in and out of the clouds from the plane.

Plane is a Boeing 727, good flight, clean plane.

There was time between flights in Kunming to visit the Yunnan Natural Museum.

I bought a book there, Yunnan Natural Museum, Landscape.

Then, flight from Kunming to Chengdu.

This is now another province, Sichuan.

Sichuan is the province with the most population. 1 person in 10 in China lives in this province. 100 million people. Though one of the largest provinces and most populous, it has much mountainous, sparsely inhabited terrain.

The Chengdu Plain, irrigated by the Min River, has been artificially controlled since the third century B.C. The Yangtze passes through gorges in the eastern part. In the western part, mountains rise toward the Himalayas.

In summer, the sky is frequently, almost permanently overcast, and it is said that the local dogs bark when the sun comes out (such an usual occurrence).

Nobody buys any land in China. Technically you only lease it for 30 years or so.

Chengdu is big, generally ugly city. 4-5 million people.

Decent hotel.

Dinner with too much wasted food.

Heavily polluted city, smoky and unpleasant smell.

Took a walk, with Eileen, by the riverside and tea stalls, but I gave it up. Too smelly and unpleasant. Eileen taught English to medical students here for a year.

May 21, Sunday.

Up at 7.00. Off for a slow start at 9.30. We are wasting too much time.

Drove by a statue of Chairman Mao, in city center square. He has his hand out, five fingers outstretched, and the other hand behind him. The local joke is that he invites the city people to five years in rural China to learn about the country. They say, "Well, maybe..." But there are five more fingers behind and five more years hidden. The 10 disastrous years of the Cultural Revolution. Unemployment rate was 30%.

I saw a big truck seen with 6 huge and very long logs.

Typically you can understand only about half of what the local guides are saying.

Gradually we reached the edge of the city. Rice fields, planting.

Some threshing of wheat in the right lane of the road.  
Back into an endless chain of open fronted shops and stores.

"When you open the window you get fresh air, and flies also come in." Often said of the ills that accompany their shifting to capitalism.

Reached Dujiangyan City, and visited an ancient irrigation project, the Dujiangyan Irrigation Project, on the Min river. Minshan, Min + shan = river.

Podocarpus, a broad-leaved evergreen in the park, native to Asia and New Zealand.

The irrigation scheme is 2,000 years old, with recovered statue of Li Bing, the governor who first produced the project, a combination technological/religious/political project.

So there is a temple to the taming of the dragon, who in anger made the waters flood. Fulong Temple. Visited that Temple.

This irrigation project is as old as the Great Wall of China.

Then, back on bus, and visited a temple on a steep hillside, said to be to Li Bing and his son Er Lang (Temple of the Two Kings), from 494 A.D.

Walked down steps, and the bus drove around.

The group is moving at a frustrating snail's pace, taking forever to do anything.

Some huge trees on the hillside, and you did get a good feeling for what kind of trees China can produce--if humans leave them alone, or protect them in temples.

Ginko biloba

Cypressus funebris, a cedar

Phoebe zhennan. What is this?

We passed a huge stump, really in fragments, half way down the hill (moved here from elsewhere), with the claim that Beijing scientists had dated it at 3,410 years.

Back on bus, and drove through a mountainous area, the gorge of the Min River, generally raising wheat on too steep slopes. Also much disfigured with mines for cement.

Hazy all day, haze presumably from coal mines.

Then drove up a more narrow gorge, of a tributary, steep canyon and much better forested. Cabbages and potatoes.

The canyon gets wilder and heavily vegetated. Some of the side canyons are as steep as any I have ever seen.

Reached the village of Gongda.

Good road, though narrow and often heavy truck traffic.

Then back into good forested and narrow canyon.

Lady Bird Johnson visited here in 1982, and Chengdu prepared various festivities, but she refused them, to visit the panda center.

Reached the Wolong Panda Center and Reserve.

Halfway decent hotel, really part of the Wolong Panda Reserve.

Dr. Tang Chun Xiang, veterinarian, Asst. Director China Conservation and Research Center for Pandas.

Wolong Nature Reserve has 200,000 hectares, one of the largest in China, to protect the panda, and other animals.

Pandas in China now number about 1,000.

Started in 1975, the first conservation center.

Since 1980, this has been a Man and the Biosphere Reserve and World Wildlife Fund connections since 1980.

There are about 100 pandas in Wolong Nature Reserve.

In 1986, the first baby panda was born in the Center, and the first born in captivity.

Prince Philip is honorary chair of WWF.

There are been 25 liters here, with 38 babies.

The panda is a living fossil. From almost the same age as dinosaurs (so he says, but doubtful).

The panda has a lot of genetic problems.

It is difficult to enlarge the population.

3 main problems:

1. Mating. Most males don't know how to mate. Only about 10% will mate in nature.
2. Female panda does not get pregnant easily. Maybe a genetic problem.

Only about 30-40% of females can get pregnant.  
6-8 each year may mate here, only 3-4 will give birth.

3. Infant survival is low, less than 40%.

Females are choosy about their mates.  
Males fight each other intensely, for mating a female.

Delayed implantation.

Pregnant for 5 months, on average. But the embryo only develops 3 months or so. Infant is very small, 100 grams. One here was 53.5 grams. Infant is like a mouse, but this is supposed to be a bear.

The shortest gestation here has been 81 days, the longest 184 days.

Immune system of infant is not well formed. In captivity they have raised the survival rate from 40% to 80%.

The first milk is important, and they have tried to find substitutes from other animals. But other milk doesn't work well.

If they have twins, they usually only keep one infant. She nurses the larger one. She doesn't sleep in this period. The vets here incubate and hand raise the other twin. The mother licks the infant a lot.

The baby is born blind and the mouth will not fully open.

Last year they had triplets. Only two survived.

8 babies, 4 liters, 7 survived last year.

In the wild, the babies are with the mother 1 1/2 years. In captivity, they wean early, to try to get the female into estrus.

A panda is mature sexually from 7-18 years, the reproductive period. That is 11 years or so and a female would have litters every 2 years, maybe 6 babies, only 40%, maybe 3 survive.

Panda is, technically, a carnivore, but with a different digestive tract. Panda has short intestines and defecates fast. There is no differentiation between small and large intestine.

Pandas have digestive troubles. The bamboo is sharp. They also feed pandas bread, fruit, beef, marten, rice stew. They will eat grass if pushed and there is no bamboo.

The jaw is strong.

They catch pneumonia.

They have kidney failure.

Pandas here in the Center are from all over China, not just Wolong.

Those rescued from elsewhere are cured and re-released.

If they keep them over 2 months, they are difficult to release.

They have released 5 adult pandas (all pandas once wild), and the whereabouts of 2 are unknown. They were radio-collared, but the collars were lost after 1 1/2 years. Three have come back, though one is now dead.

Since 1997 there is a program to release captive-born pandas into the wild, a new program.

They will build a big enclosure, 3 km.<sup>2</sup>. Some think it will work, others not.

They put the babies together to play, but when they become sub-adult they prefer to be solitary.

Those born in captivity mate better than those in the wild.

They often do various research projects, experiments. But often they find that the results of their experiments are not repeatable.

The bamboo plants flower and then die, and this hits them hard. Bamboo only flowers once, then dies on a 20-year cycle or so. Different patches on different cycles, maybe 40-120 years.

WWF gave them \$ 2 million to start up, equipment, but not much support since. Their support now is mostly from the Chinese government.

Some local people were removed to form the reserve, about 400 people. These were given 30,000 yuan, but many have returned.

End of notes from veterinarian's talk.

There was discussion of climbing up to their research camp. The climb is said to take about 2 hours of hard climb, so nobody was inclined to do it. But I was willing to try, spending our sole day here doing that. But they said it would be too much.

I met Brook Edwards, Humbolt University, California, student, working with Matt Durnin, U. C. Berkeley, a graduate student, the main person in charge of the study project, which is his Ph.D. thesis at Berkeley.

I took a walk before supper and found a Jack-in-the-Pulpit.

Not only is the panda reserve here, but the diversity of plants in the valleys and ranges of Sichuan is as great as anywhere in China.

After supper, I fell on the steps, and busted my tail bone, or thereabouts. Glassy polished steps are slippery as can be. I knew it, and was careful, but still fell. Darn it.

May 22, Monday.  
overcast all day, and misty

Just as well, I suppose, that I can't make the climb, because now I have sore rump as well.

China has had a recently exploding population, in last century or so. But, remarkably, many animals struggle on against the odds, often in mountains too steep for cultivation, or in highlands too cold or arid.

Pandas, once widespread, were pushed up into the mountains.

Red panda - above 2,500 meters, over much of the Himalaya's, China, Nepal, Burma, to Yunnan province in China.

Feeds on bamboo, also fruit, seeds, roots, leaves, lichens. Simple stomach, no coecum, and short digestive tract.

Pandas are mainly found in arrow bamboo.

Wuyi Peng

The camp was George Schaller's camp, then tents. Now there are several buildings.

They are modelling the growth of bamboo.

Allen Taylor, Penn State, worked here as a botanist.

Brook Edwards, under Matt Durnin, is doing a survey to prove there is enough bamboo and this is not a problem. Although the bamboo had mass flowering in 1983 and much of it died, there is still plenty. Radio satellites won't pick up the bamboo, because it is in the understory. But certain canopy types have more bamboo and the general type can be told by satellite.

We took a trip on bus, and visited a museum.

First Priority Protected Animals in Sichuan

1. Giant Panda
2. Golden Monkey
3. South China Tiger
4. White Ass
5. Sika deer
6. White-lipped deer
7. Takin - a goat/antelope
9. White-necked crane

Second Priority Species

1. Red panda
2. Musk deer
3. Rhesus macaque
4. Tibetan stump-tailed macaque
5. Chinese pangolin
6. Serow, a sort of goat. Caprocoris sumatraensis. s. China, Indo-China, Himalayas.
7. Lynx
8. Clouded Leopard, Neofelis nebulosa. Nepal, s. China, Malay peninsula, once on Taiwan.

9. Snow leopard
10. White-bottomed deer
11. Tibetan antelope
12. Argali, a wild sheep, Ovis ammon, s. Siberia, Tibet, Mongolia, Himalayas.
13. Swan
14. Mandarin duck
15. Teonmick's Tragopon
16. Chinese monal
17. Tibetan eared pheasant
18. Reeve's pheasant

Threats:

human: logging, hunting, livestock grazing

3,000 people live in Wolong.

Snow leopard is here.

Arrow bamboo flowered in 1983 in Wolong, a mass flowering. After this it dies. Panda's system is adapted to eating meat, yet food is 99% bamboo. But it is not efficiently digested, so it eats a large amount (10-18 kg. a day). Much of this passes undigested and is easily seen in the droppings.

Pandas are born August and September. None have been born here this year yet.

The mother nurses it constantly in a den.

She will carry it in her mouth until it starts to walk at 6-7 months.

At 7-8 months the baby starts eating bamboo, though still taking mother's milk.

Newborns are quite undeveloped and delicate.

The father plays no part in rearing at all.

Hetauping is another breeding center.

Male musk deer has no antlers, but instead has tusks, look like fangs. Moschus berezovskij. Seen in the museum. Female has smaller ones. The male has a musk gland in the abdomen, highly prized for perfume, soap, medicine. Said to be the most expensive animal product in the world, up to \$ 45,000 per kg. (1986).

Bamboo rat, Rhizomys sinensis. Eat bamboo. Something like a pocket gopher.

Mniz vestitus ?, like a fat pika. Can't find it.

Tibetan area

Growing opium for family use is still legal here, but not for sale.

Dawn redwood, Metasequoia, like a deciduous conifer, otherwise like Pseudotsuga.

first known as a fossil, discovered alive in 1944. Judd, *Plant Systematics*, pp. 153-154.

## Cymoptera

In China you hardly see any wild animals, only birds, so pressed have they been over the millennia.

"wo-long" means "sleeping dragon" We saw Sleeping Dragon Mountain (pix).

The crest of the mountain looks like the fins on a dragon, with the head at the bottom ("sleeping").

Peasants can cut wood in the buffer zone on each side of the road, up to the ridge top. But the trees on the ridge top are native forest.

Seeing a panda even in good habitat is just a matter of luck. About like seeing a mountain lion. Bamboo is an understory and dense. They disappear in it, when they hear you coming in the bamboo.

We walked up the Ying Chang Guo valley an hour, 2,150 meters here. The panda research center is at 1,900 meters.

The exploitation of the wildlife here is often pushed by ridiculous beliefs -- that eating types of meat will miraculously increase ones vigor and vitality, or that, drinking raw snake's blood will increase vision, strength, and sexual potency. Lonely Planet, China, p. 49.

Return to the reserve.

Talk by Matt Durnin, U. C. Berkeley.

In 1993 he was in Beijing, met his wife. His wife's father is a U.S. diplomat in China. Now Matt lives in California, works out of the San Diego Zoo. Has a master's from Duke. He did a wildlife survey in western Sichuan, now works in Wolong. Spring of 1998, March to May, and Aug to Nov., he stays in Wolong.

Once he hoped to do radiocollar study, and study olfactory communication. But the Chinese don't want any more radiocollars. They prohibited them in 1996. Reasons speculative. Some claimed radio collars had killed some bears, though this was false.

Panda is extremely hard to see. Matt has only seen them once.

He hoped to do infrared video. Tried it and got the photos of 4 animals in 11 months.

Scent station. These are usually large conifers, and they stain the bark.

The scent tells them who has been there recently, and how to avoid contact with others, even in overlapping territories.

There have been two national censuses. The census takers found 140 in 1974 census.

The found 120 in the mid-eighties.

Schaller found 72. All from sign.



The majority of populations have decreased about 30%.

The number of animals is clearly lower than the bamboo carrying capacity.

Matt's theory is that the lack of denning sites is the limiting factor. They need large conifers, with hollowed out space.

Schaller identified 4 dens.

The mother gives birth in late August and September.

She needs 4-6 dens for one infant. She gives birth in one den, and moves two or three times.

Why? Predation by leopards may be a factor. Here there are clouded leopards. Predation is on the young, not adults. But nobody knows how serious this is.

Pandas are looking for dens. There may be competition with black bears. In other places pandas will use caves.

It seems odd to give birth in the fall when winter is coming on.

Probably they were adapted for lower elevations with abundant bamboo, and the winter didn't make that much difference in food availability.

They eat umbrella bamboo lower down, but arrow bamboo is the primary food.

The males may use the dens as rest sites.

They look at movement patterns from one part of the Reserve to another.

For the locals the panda is not a nuisance.

More traffic on the concrete road disturbs them.

8 new infants in 1999,  
6 new infants in 1998

The reintroduction pens are 3 km.<sup>2</sup> and will go right to the top of the mountain.

This panda species has been around 10,000 years. Other panda species go back to 3 million years. There are some pandas in the fossil record.

Panda is probably a better adapted fit than it appears to be. Their difficulties could be just a lack of den sites.

Pan Wenshi, Beijing University, is the principal Chinese scientist dealing with pandas.

IUCN Panda Biomedical Research Survey is here. They take blood and other medical data from the pandas in the Reserve.

Only a handful of Western scientists are working here, and only a handful of Chinese scientists.

Much of what makes a panda seem stupid may be a mistaken transfer of captive animal behavior into the wild -- such as they claims that they don't know who to mate, that they can't care for their young, etc.

In the wild they may get a lot more cues, and do it better.

end of talk by Matt Durnin.

May 23, Tuesday.

Lovely day, one of the sunniest days of the trip. Lots of sunshine, blue sky, and we are leaving. Where was this weather the last few days?

Spectacular drive out of the gorge. Some alpine and snow covered mountains seen in distance. Steep gorge walls.

Lots of people out with butterfly nets, to catch them for sale. Prices may vary from 1/2 yuan to 200 yuan for rare ones.

Nice ferns, 6-8 species, and I don't know what they are.

The lower gorge is thoroughly disfigured by quarries for limestone.

We are now back in the ugly towns. Lots of pedal tricycle taxis.

Lunch at a "farmer's restaurant" - with lots of bamboo.

Then on to Chengdu, and to the hotel.

Then to Chengdu Panda Breeding Center, where we were supposed to meet an expert, who never materialized. And we got only a walk through tour.

28 giant pandas here. We saw 12-15 or so. This part of the trip was a bust.

Then supper, a meal of snacks, 15 or so different kinds, in a fancy restaurant, and none of them any good. The restaurant was peaceful and the waitresses did try hard.

The restaurant was ensconced away inside a very noisy shopping center.

Then a farewell party back in the hotel lounge.

A 12-14 year old girl played remarkably on a piano, Western classical music on their grand piano.

May 24, Wednesday.

Early morning, walk around Chengdu. Lots of smart shops, clothing, with Italian flavor.

Depart hotel 11.30 a.m..

Flight to Hong Kong, arrive 5.00 p.m.. Long wait in Hong Kong.

11.20 p.m. Take off for San Francisco.

May 24, Wednesday, the second time, crossing the date line!!

6 hour night and then a 6 hour day, on the plane, flying into the rising and oncoming sun.

Arrived in San Francisco, 9.05 p.m.

Spent the night in Comfort Inn Airport West, Millbrae. Satisfactory.

May 25, Thursday.

At 5.25 a.m. in San Francisco, in airport, I heard the news that the U.S. House has passed the China Permanent Normal Trade Relations (PNTR) bill., and the Senate is expected to pass it, and Clinton will sign it.

Left San Francisco 6.00 a.m. Arr Denver 9.22 a.m. and home.

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Wood, Frances. Blue Guide, China. London: A&C Black. New York: WW Norton. 1992. I got it ILL after I got home. But disappointing, very poor in interior China. It is a guide to the usual historic sites in eastern China.

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End, Backroads China, 2000

## Scotland and Ireland, 2000

May 26, Friday. Barely able to make the turnaround from China, I left Denver, British Airways, and to my pleasant surprise I got upgraded to business class, which was elegant. Enormous amounts of room and seats recline greatly, so you can sleep rather well.

May 27, Saturday. Arrive Gatwick. Plane to Aberdeen. Arrived in Aberdeen in pouring down rain. Bus trip into town was something of a hassle. But the lady bus driver, whose accent I could hardly understand, did manage to put me out at the Jarvis Hotel, about 4.00 p.m.

Small and marginal hotel room @ £ 68 a night. I was having much better hotel rooms in China, and I had virtually this much room on the plane with British Airways.

Gifford Conference on Natural Theology, already a day in progress. Saturday night I heard Eleanore Stumpf, who will give Gifford Lectures in Aberdeen, 2002.

May 28, Sunday. In the morning, service in King's College Chapel, lovely organ and choir. Afternoon, I heard Paul Davies, then Michael Behe.

Aberdeen is "The Granite City" and it is indeed granite and dull gray. Seems like every building in town is the same color.

May 29, Monday

9.00 a.m. I gave my paper, "Naturalizing and Systematizing Evil." Neil Spurway, Wentzel van Huysteen present.

Afternoon, bus tour with conference people. We visited:

(1) Dunnottar Castle. Spectacular castle ruin located on a sea headland on the North Sea, near Stonehaven, 30 miles south of Aberdeen. Surrounded on three sides by sea and on the fourth by a deep cleft when the crag split from the main cliff. A theatrically sited ruin. There has been a castle here since the early 1200's. It was stormed by William Wallace (1270-1305) in the year 1297. Wallace was put to death as a traitor.

167 Covenanters were brutally imprisoned here in 1687 in a dungeon open to the sea.

Oldest of the present buildings is 1392.

The movie Hamlet was filmed here.

Lots of nesting birds on the cliffs, but I do not know what they are. (I was to spend more time here later.)

(2) Balmoral Castle. A bust. They hadn't checked the closing times and we could not get in. We only caught two glimpses of a tower and some flags above the trees. (Later, I got in, see below.)

(3) The Linn of Dee. A forested scenic spot where the river Dee is forced through a narrow rock cleft--at the narrowest less than a meter wide. Dramatic area. "Linn" is a Scots word for this kind of place--a pool, cataract, precipice.

Perhaps three dozen red deer (= elk) seen here, said to be the Queen's deer, and there was a high

fence along the roadside, but other than that they did seem to have the run of the land.

The forest gives the appearance of being a managed, even manicured, forest, always thinned for management and aesthetics.

On the distant hills there was a good bit of snow yet, surprising. Rather pretty drive generally up the Dee.

Aberdeen means "mouth of the Dee."

(4) Drum Castle. Vicinity of Banchory. The castle has an ancient past, built 1296, and a "modern" part, a Jacobean mansion, grafted onto it in 1619, and the latter refurbished inside as a Victorian mansion.

Robert Bruce conferred these lands on his standard and armour bearer, William de Irwin, and a long series of "lairds" lived here until recent days. The family lived here until 1975 when they could no longer afford to keep it up, and gave it to the National Trust of Scotland.

The tour was too long-winded and I got cold, and bailed out of the latter part of it.

I am still being troubled by a sore rump from the fall I took at Wolong in China a week ago, so now it hurts both in rump and in left heel to go up and down stairs.

May 30, Tuesday.

Spent the day sorting out my future here.

Worked out accommodations in Lerwick (Shetlands). I booked my passage yesterday. Got reservation at Ibis at Heathrow, for our eventual departure, and extended the car reservation to pick it up next Monday. Lots of figuring out how to make phone calls right.

5.00 p.m. Boarded the P & O ferry, St. Sunnva, for the Shetlands, an overnight trip, 211 miles. I have a "berth"--bought both lower and upper berths to be private in a tiny "cabin" way down in the lower decks. Not much more than a berth on a railroad train car. Sink, the two berths, and nothing more. Awkward, no place to sit, as the bunks are too small for that. But it is o.k. for the night. No lift, and three narrow flights down.

Also the rear lounge is quite peaceful, though in the distance a bunch of locals (in accents I can't understand) are raising their voices the more they drink.

The Shetlands are the latitude of Bergen, Norway.

Calm seas, and a good night, despite the small cabin.

May 31, Wednesday.

No land in sight when I got up, 7.00 a.m. But land soon came in sight and we docked in Lerwick about 9.00 a.m.

Taxi to B&B. Mrs. D. Anderson, Seafield Farm, Lerwick, ZE1 ORN. Phone 01595 693853. With a great view, but one mile out on edge of town. After checking in there, I spent the morning trying

to sort out the town, and failed to get all I wanted in tours, but got some.

Walked back a long way around The Knab, a promontory that juts out in the bay. 5 puffins, nicely seen at the water's edge at the base of the cliffs. My first puffins.

There are a few trees in a hedgerow down the lane in front of the B&B farmhouse, low and gnarled. What they call a sycamore, but really a maple, Acer pseudoplatanus.

Supper at a coffee shop in a big Safeway!!, and the Safeway proved quite useful. The best looking store in town.

Then I walked along the Loch of Clickhimin, up a hill overlooking the town, a steady walk, with pain in my rump and heel every step of the way. Heather and grass on the landscape, no trees.

Return to Clickhimin Broch, a ruin jutting out into the Loch. Good pix in the Blue Guide, Scotland, p. 470. This was inhabited 1,000 B.C. to 500 A.D., afterward a ruin. The antiquities in Shetland are impressive.

The Vikings held slaves and exalted bloodlust. Vikings have been lionized by the Scandinavians and demonized by others. It was a brutal age, and mostly the Vikings were just better brutes. They prized their freedom and were opportunists in a time of political instability.

They never wore the horned helmets that are now their cultural icon.

Norse Gods:

Odin, and hence Wednesday

Thor, and hence Thursday

Freya, and hence Friday

Vikings came to the Shetlands c. 800, and to Orkney, c. 860, to Ireland 871, and Greenland, 985, and to Canada (Labrador and Newfoundland), c. 1,000. They often raided monasteries in Britain, Ireland, Europe, because the monasteries had lots of wealth--gold, silver, jewels.

Both Orkney and Shetland, confusingly, call their main islands the "mainland."

Orkney has the richest concentration of prehistoric monuments in Britain. It was colonized by the Picts about the time of Christ. It was a base for Vikings, or pirates, 790-1066. "Viking" means "pirate" in Norse. Eventually Norway claimed it, 875.

The Scots influence gradually took over, from 1230 mostly Scots rulers, though formerly Shetland and Orkney belonged to Norway.

Margaret, daughter of Christian I of Norway and Denmark, married James IV of Scotland, and with her came the islands, in lieu of a dowry.

Shetland has 100 islands, only 12 inhabited.

The mainland is so indented that it varies from 20 miles to a few yards wide. No place in Shetland is more than 3 miles from the sea.

In the B&B, there is a big picture of her son, at Everest Base Camp. That is as far as he went (and further than I went!).

It is dark after 10.00 p.m, but never really gets dark. It is decidedly light by 5.00 a.m.

June 1, Thursday.

Walked into town in the rain. But I did o.k. in the parka.

Bus tour. Rainy day. Headed north, to Veensgarth. Tingwall, a small airport. Then around on the road to the west, not the main road.

Whiteness Voe, a long sea loch. "voe" = fjord "ness" - a headland

The Scots drove out a lot of Shetlanders, who went to New Zealand. The crofters rented a few acres, kept cows, sheep, and ponies on a commons grazing, and fished the sea. The crofters were cleared from the land to make way for sheep, with great hardship on the crofters. The Crofter Holdings Act of 1886 eventually granted a security of tenure.

Reached Kerbard, with the largest stand of trees in Shetland. This is really the only place on the islands where trees can grow. Or maybe trees can grow on Shetland, but have been destroyed by the sheep and cannot get re-established. 8-9 acres here were planted 1901-1921, conifers and broadleaved trees.

rooks

hooded crows

Passed a house with a big sycamore (maple), said to be the biggest tree in the Shetlands.

marsh marigolds, Caltha palustris, very common

Loch of Sandwater

lots of sheep and newborn lambs

reached Brae (a town), where the "mainland" is quite constricted. Sullom Voe, to the n.e., nearly joins Swarbacks Minn (a sea loch) to the s.w.

Sullom Voe is Shetland's largest sea inlet. The first bomb dropped on Britain in World War II was dropped here, and it only killed a rabbit!

Mavis Grind - the narrow isthmus between the Atlantic and the North Sea.

The land to the n.w., though connected to the mainland, is called Northmavine.

There is a Shetland breed of sheep.

The landscape is pretty but often pretty trashy. Lots of junk from the sea blows in. There is an annual pickup. Lots of Shetlanders spend a weekend picking up trash.

mute swans - 2 seen on a loch

Reached Ollaberry, with a scenic descent to the sea.

Great skua - black, with white wing patches

fjord - gouged by ice.

For most of the history of the Shetlands, the sea was the highway, and inland roads poor or nonexistent.

Men would set out to fish in open 30 foot boats, with sail or six oars, called "sixareens."

The Shetlands have one million seabirds returning each summer to breed. They like the cliffs for safety and have plenty of food.

The warmer Atlantic waters mix with the cooler North Sea waters. This stirs up nutrients. The long summer sunshine produces lots of photosynthesis, lots of phytoplankton, eaten by zooplankton, eaten by fish, such as sandeels, eaten by the birds.

Passed quite a number of salmon farms, salmon cages in the lochs.

Ronas Hill -- 1,477 feet, the highest point in the Shetlands

Ronas Voe -- below it, a fjord.

Drove to Heylor in this area.

oystercatchers

reached Hillswick, and lunched at the St. Magnus hotel.

area called "The Drongs," with Vampire's Teeth - striking rocks in the sea.

lots of "stacks" - striking rock columns in the sea.

The months of December and January are pretty dim. There is daylight from 9 a.m. to 3.00 p.m., but it is often heavily overcast. Maybe they get 8-10 hours of sun a month.

Lots of peat, cut up and stacked up to dry.

lapwing - with striking, long wispy crest. Briefly seen in the fields (and later seen better).

Braewick

pink thrift, sea thrift, Armeria maritima.

Reached Esha Ness, with a lighthouse. Rocks have been thrown onto the roof of it in storms.

Lots of nesting fulmars.

A fulmar is like a gull, but black eye with dark patch of modified bristly feathers, giving a black backward tear-drop appearance. In flight the wing beat is rapid, alternating with gliding. Not like a gull. It looks neckless and with a broken bill.

Spring squill, Scilla verna, a small, blue flower in the grass at Esha Ness.

Went to Tangwick Ha Museum, small museum of seagoing memories.

Shetland has 400,000 sheep and ships 100,000 lambs out in the fall.

Various languages mix here, but no Gaelic.

Oil is pumped from the North Sea fields to Shetland in two undersea pipelines, and it also runs over the ground some. Then it is loaded, as crude oil, into tankers on the main island at Sullom Voe, Europe's largest oil terminal.

Returned to Lerwick

Rained all morning. Dry but overcast in the afternoon. Rained all evening. Hard rain and considerable wind as I went to bed. I don't know if I will sail tomorrow.

June 2, Friday.

Overcast, dry, but windy. I rode in with my host at 8.30 a.m., to find that the 10.00 a.m. boat would not sail, too windy. But the 2.00 p.m. might, and I could transfer to it.

So I spent the morning in the Lerwick Library/Museum reading.

Gannet - wingspan almost 6 feet. The largest and most spectacular seabird of the North Atlantic. It has no external nostrils. There is a spectacular dive. They hit the water at 60 mph. (Later seen, see below) They migrate south to Africa and may stay there two years. (I saw them in South Africa.)

Windy all morning but clearing. But the wind was abating and by 1.00 they said they would go. Lovely afternoon.

Auks include:

--puffins

--guillemots (= murre)

--razorbills

These are the penguins of the north, though they fly, as penguins do not.

With a whir of wings always buzzing, they never glide and look heavy and barrel-like.

All three are in the U.S., but barely -- off the coast of Massachusetts and Maine, and further north in Canada. There are a good many other kinds of auks, and others still in the Pacific northwest.

kittiwake, a gull. Black legs, yellow bill, and wing tips dipped in ink.

They call their name. Kiti-wake, "Sorry I'm late."

They are birds of the sea, not on beaches or in refuse.

Storm petrel is tiny, smaller than starling. (I saw them the next night, in the dark.) Storm petrels feed out of sight of land. They come ashore at night to relieve their partners on the nest, avoiding predators at night. The individual incubating the nest lowers its body metabolism and may go five days without food or water, until its mate returns. This goes on 60 days.

Most seabirds mate for life. Males and females share incubation and chick feeding.

If you walk over a mainland and disturb skua or tern nests, they will attack--skuas with their feet, and terns with their bills.

Seabirds are at their breeding colonies 3-4 months. The rest of the year they migrate south or go out to sea. Gannets go to West Africa, Arctic skuas to South Africa. In a lifetime, an individual may travel the distance to the moon.

Boarded the boat, 2.00 p.m. Boat has a small cabin, otherwise open. 10 persons. Guide is Jonathan Wills. Has a Ph.D. in historical geography of Scotland from the University of Edinburgh.

Went first to a sheltered area. One gray seal. 6-8 common seals = harbor seals in North America.

eider duck - several hundred

skag - a cormorant, a hundred seen

terns - Arctic? several hundred seen

Common and arctic terns can't be told apart, unless you see the bill up close.

greater black-backed gull

A coast guard helicopter radioed to see if they could practice landing a man on the boat. Lowered a man to deck and picked him up, twice. (pix).

Great skua, 6 or so, seen on Bressay Island. Black, white in wingtips.

Bressay Island is one of some size, 7 x 3 miles. It joins a smaller Island, Noss, at a low strand.

Lighthouse. Built by R. L. Stevenson's father. With a nice natural arch adjacent.

fulmars - in the cliffs by the thousands

black guillemot (pronounced gilley mott), many hundreds seen

common guillemot. They are called "murre," ("pronounced "murrs,") in the U.S. Thousands seen.

razorbills, hundreds seen

British navy used to force men to serve - a "press gang."

Saw a cave where an Orkney man hid here to avoid such service.

Giant's leg, a natural arch over the sea.

More seals, both grey and common

On the Noss cliffs, gannets by the thousands. At the Noup of Moss, the highest cliff, a great display of guillemots underwater swimming. Quite well seen.

On the way back, one arctic skua, the only one seen

They feed largely by taking food, piracy, from other birds.

The guide called out a few puffins, flying over the water, but I never saw them. They all seemed to be out at sea fishing. Good thing I saw them well at the Knab two days ago.

Both gannets and fulmars were not here 100-200 years ago. Both came in, following the waste of fishing ships, and have now established themselves. Fulmars came from Iceland.

Returned to Lerwick on boat. Picked up a car.

Picnic supper at roadside beyond town.

2 rabbits

oystercatchers

starlings

English sparrows  
curlew -- two nicely seen in fields  
lots of cotton grass in a marsh.

So far I haven't seen another American in the Shetlands.  
Lovely evening, lots of blue sky, but cool.

June 3 - Saturday  
Lovely day.  
Drove north to islands of Yell and Unst.  
lapwings  
2 rabbits

Crossed from Toft (ferry point on the mainland) to Yell, at 10.00 a.m., 30 minutes crossing. Nice views over Yell Sound. Ramnar stacks silhouetted in the North.

Reached Yell. Peat cutting (pix)  
Windhouse, a ruin (pix). The site has been occupied for 5,000 years. The oldest remains now are 2,000 years old.

Crossed from Yell to Unst, on 12.00 ferry. Reached Unst.  
Shetland ponies (pix).  
The two-lane road narrows to "single tracks" with "passing places."

Hike at Hermanness Nature Reserve. Left at 1.30 p.m., and back at nearly 5.00 p.m. Took longer than I thought. Maybe 3 1/2 miles, and I am not hiking so well with sore rump and sore heel.

Hike up the Burn of Winnaswarta, steady climb over grass land, moorland, soggy with lots of Sphagnum. Usually 1-2 skuas in sight, often coming in close, like I was disturbing their nesting site. A few chicks seen.

Reached the cliffs over the sea at Sothers Stack at Neap (pix).

Then hiked along the cliff with lots of nesting fulmars.  
On to Clingra Stack, Hulma Stack, and The Greing, the latter loaded with gannets. Also many guillemots on some of the cliffs.

Lighthouse.  
Skylark (I think), stationary and fluttering high in the air, and singing.

Then walked back over Hermanness Hill, long and I was slowing down--heel and rump hurt. But I made it out eventually. Enough hike for the day!

Caught the ferries to Unst to Yell at 5.45 and Yell to Mainland at 6.40.

Picnic on a hill, overlooking a green hillside. 150 sheep, each with a lamb. An abandoned croft, now in ruins.

Good sunshine. Bleak and scenic. Rabbit.

I probably did not meet four dozen cars all day long. Good roads, good surface, even when they

are one-lane roads.

Redshank - watched at length on a fence post.

Back to the B&B for a cup of spice tea before the storm petrel trip.

9.30 p.m., depart south to Southwick.

11.00 p.m.! storm petrel trip. 60 people! We boarded what is, in the daytime, the passenger ferry. Seal, with head above water, as we left.

Crossed to Moussa, then a 20 minute walk, in dim twilight, across rock and moor to the Moussa broch. A broch is an old stone, circular fort. This is by far the most complete of Scotland's more than 500 brochs, on the shore of an empty island. Most broch sites are now piles of stones. Built in the Iron Age, and variously restored. On brochs, see [Blue Guide, Scotland](#), pp. 38-55. A Norse name, but they go back much earlier, to the Iron Age. Defensive round, double-walled tower, unique to Scotland.

Another couple of seals seen in flashlight beams over the rocky beach area.

There were storm petrels coming and going from the broch like bats in the night, somewhat visible in the semi-darkness, entering crevices in the rocks to change places on the nest. There is only one egg. Several times we got lights on one entering a crevice. Black birds the size of a starling, with a conspicuous white rump.

The British storm petrel migrates to waters off the shore of South Africa in the winter.

Returned.

June 4 - Sunday

Drove to Sumburgh Head, southern tip of the mainland.

Finally, found the puffins, by the hundreds, nesting on the cliff and easily seen from often 25 feet away. The heavy stone wall at the edge of the cliffs serves as a sort of blind. (Lots of pix of puffins and fulmars).

Guillemots by the tens of thousands, usually lower down, and not seen as close as we did on the Noss Island trip.

gannets - several hundred seen.

kittiwake - a few seen clearly with yellow bill (unlike the fulmars) and black eye. They plaster their nests to steep cliffs.

The fulmars are already nesting on steep slopes, where you would hardly think anything could find a home even there. Then, below, worse, the cliffs are so vertical and solid rock, and the kittiwakes have put nests in them!

Sea pinks = thrift. [Armeria maritima](#), what looks like a grassy moor is often tightly packed thrift. Leaves are very narrow.



puffins in thrift (pix)

Lighthouse here too was built by R. L. Stevenson's father.

Also Stellaria media, chickweed!, which I saw at Wolong Panda Reserve in China, three weeks ago, and the first plant I ever keyed in Bristol, Virginia!

skylark

returned to Lerwick

wheatear

Meadow buttercup, Ranunculus acris

I repacked in the Safeway parking lot, and dropped the car in the ferry parking lot.

Sailed 6.00 p.m. Ship is named the St. Clair.

This is the 60th anniversary of Dunkirk. Just as we embarked there was on BBC coverage of the Dunkirk people, now in their 70's and 80's, in an anniversary of remembrance. Especially moving singing of "Eternal Father, Strong to Save."

Sailed past Bressay Island, and the lighthouse there with the Giant's Leg Arch. Noss Island seen again, with stark cliffs.

The ship sailed between Moussa and the mainland, and the Broch was clearly seen again, quite a relic on the now uninhabited island.

We sailed past Sumburgh Head, and the lighthouse (where I spent three hours in the middle of this day).

Fair Isle visible in the distance.

Supper, a picnic on board!

This ship has a lift, otherwise the same, and rather on the ratty side.

We passed rather near Fair Isle, 9.00 p.m. A huge gannet colony on the north end. They (and their dung) make the cliffs white.

Guillemots, gannets, fulmars, puffins flying about at enough distance to make identifying them a challenge. But by now with some care I can do it.

June 5 - Monday

Off the ferry at 8.00 a.m., and poor taxi service to the car rental, who didn't have the car there, but at the airport. Drove the car back into town and parked in a dark multi-story car park in a bright shopping center.

Sorted out the rail trip to Belfast and future nights in Aberdeen and Belfast.

Got lost several times trying to get out of Aberdeen, headed south. Confusing road numbers and the numbers in my atlas had been changed. Eventually I made it to Stonehaven and B&B there.

June 6 - Tuesday.

Out with Rodney Payne, SeeBirds.

Fowlsheugh Nature Reserve. (pronounced: fowls heuk, the heuk has a rough cough sound).

He has an 80 mm. Kowa scope. 20-60 x zoom. Good, clear, crisp image, but terrible eye relief.

common gull

rock pipit

common swallow

carrion crow

herring gulls

eider ducks

oystercatcher

fulmars nesting

gray heron - in scope

greater black-backed gull - very black back and pink feet

lesser black-backed has yellow feet and grayer back

house sparrow

meadow pipit, pink legs

stone chat

jackdaw - black face and grey back of head

razorbills - white strip on bill nicely seen (pix)

guillemots

2% of guillemots have an eye spectacle. One seen here.

A guillemot chick flutters down to the sea in three weeks, with a special set of feathers. The father takes the chicks out to sea for several months.

gannets - seen far out, and spectacular diving. Great show through the Kowa scope. Diving straight down. (And just as I had seen it pictured.) Best event of the day, one of the most memorable of the week.

Skua is not a common bird here.

Shag

birds on cliff (pix)

seals on island, I counted 53.

herring gull - a pair with three chicks, nicely seen in scope

6-8 puffins, nicely seen in the scope

puffins nest in burrows, to 3 feet deep, which they can dig.

pie wagtail

house martin - with white rump

sea campion - a great display of it

bloody cranesbill ??

field buttercup

plantain

rock rose

gean (gee-un), a tree, a wild cherry

hawthorns

sycamore

Scot's broom. Cytisus scoparius, in Papilionaceae

In Scot's broom the green pointed shoots stick out 6-8" beyond the yellow flowers. Leaves are trefoils. Angled twigs, markedly so.

gorse, Ulex europaeus, also in Papilionaceae

The yellow flowers are at the summit of the shrub, typically with a rounded look. Spines and spiny leaves. Really green spiny twigs.

The two can be told apart easily at a distance, and often grow together.

"The gorse is in flower, so the kissing is in season." But it flowers most of the year!

bladder campion

sea campion

scurvy grass

crows toes

purple clover

white clover

cock's foot - a grass, an agricultural grass, a high meadow grass, but less used now.

wild hyacinth = blue bell, called in England

hogweed

common primrose, Primula vulgaris

Wild wallflower, Erysimum cheiri

Red hot poker, Kniphofia, in Liliaceae, a striking ornamental, introduced

RSPB, Royal Society for the Protection of Birds is not a government organization. It differs from the Scottish Trust.

went to Dunottar Castle, the 3rd most visited site in Scotland, after Edinburgh and Stirling. Two famous events here: (1) the defense of the regalia, and (2) the covenanters in prison. The Scots regalia is older than the English. There was a castle here long before Edinburgh.

end of the afternoon trip.

I drove out to see the Auguhollie Stone (pronounced augu holy). It has an Ogham inscription (pronounced "ohm"), and reads VUONON TUDOV (when transliterated into Roman letters). Ogham is derived from Latin and only used for proper names. See pix in Scots Blue Guide, p. 40. Earliest written form of Celtic Gaelic. The writing is strokes or notches along a base line. This stone is perhaps 1,000 A.D. See Irish Blue Guide, good account.

Near here is one of the likely sites for the famous battle of Mons Graupis.

Coming back, pheasants in the field

Good beech trees.

Night boat trip.

There are 100,000 birds in the cliffs between Stonehaven and the south end of the Reserve.

Puffins in the water. Close in, best I have seen.

Boat went in under the cliffs.

The sky and the water is peppered with birds.

The cliffs are a conglomerate, with big rounded boulders, 6, 8, 10 inches across, and where one falls out makes a great nest site. Lower Devonian, 400 mya.

St. Ninian worked long before Iona. St. Ninian founded Christianity in Scotland by 397. St. Columba came later.

June 7 - Wednesday.

Went out with Rodney Payne again. Drove north, through Aberdeen, to reserves on shores north of Aberdeen.

Aberdeen has the largest helicopter airport in the world, serving the North Sea oil. Aberdeen is the oil capital of Europe. Cruden Bay, where oil comes ashore, with several pipelines in.

"bending bus" - a bus that bends in the middle.

common rabbit

rook - grey beaks, shaggy looking, shaggy trousers, looks disreputable

meadow buttercups, Ranunculus acris, weeds in the fields, and bright yellow

Ythan River (pronounced I-than, eye-than long i)

Sands of Forvie - sand dunes, good tidal flats, near town of Newburgh. Sands of Forvie Nature Reserve, one of the largest and most untouched dune systems in Britain, though the whole system was created by a storm in the late 17th century.

Sandwich tern

Common tern

Arctic tern

Little tern all four are expected here

black-headed gull

2 mute swans

little tern, lots of hovering

gray heron - rather like a great blue heron back in Colorado

swallow

house martin - white rump

linnet - sparrow like, gray head, chestnut back. good singers

They were once kept in cages.

ringed plover

eider - heard calling, sounds like a cuckoo, or dove

skylark

curlews - out on the flats

arctic tern - looks, "legless"

sandwich tern - yellow bill, black tip

cormorant

common gulls

shelduck - red beak, black and white

eider females, three of them with 23 chicks, walking on the beach, nicely seen

eider, male seen close up, nicely

eiders, several hens, at the seashore edge, with a total of 47 chicks running around!

little tern - caught a fish in a quick dive and flew off with it  
linnet - nice male

(Nightingales are only in southern England.)

reached Waulkmill Hide - and lunched there  
pied wagtail

reached Meikle Loch  
shelduck - a pair with eight chicks, out on the water, then climbing on to the land

tufted duck - like a scaup, and in the same genus

widgeon - in the distance  
reed bunting- on fence wire, something like an English sparrow  
7-8 lapwings, nicely seen  
coots  
mallards  
kestrel  
wood pigeons  
6-8 mute swans

Back to the mouth of the River Ythan  
and Rodney found the King Eider he was looking for in the morning. A rare bird here. Seen quite well in scope for 10-15 minutes. Prominent orange "sail" on a red bill. This bird belongs in Norway, but this one (the same one presumably) has been coming here 8-10 years.

magpie  
scoters - sea ducks. Some distance out at sea, but reasonably good in the scope. Mostly black, but some yellow in the bill

Returned to town.

Snowberry, Symphoricarpos rivularis, a honeysuckle bush  
Goosegrass, Galium aparine  
Cherry, unidentified  
Common foxglove, Digitalis purpurea  
Speedwell, Veronica sp.  
Yellow rattle, Rhinanthus minor, calyx inflated in fruit  
Tormantil, Potentilla erecta, though four petals  
chickweed, Stellaria

return, end of day.

The earliest known human settlement in Scotland is a scatter of stone flakes, debris from stone tool manufacture, in a field in the Hebridean Island of Rhum (near Skye), found May 1983, by a farmer ploughing. Dated to 6,500 B.C.

Generally, though, mainland Scotland is thought to have been uninhabitable until about 6,000 B.C.,

with the retreat of the Ice.

Also, the North Sea did not exist then in its present form.

Up to half the fish caught by fishing vessels are thrown overboard, dead, or discards. This increases the number of fulmars, gannets, and gulls.

Removing bigger fish removes predation of the little fish, and their numbers increase proportionately, increasing food for puffins and guillemots.

The Danes are bad to catch small sandeels, made into fish-meal for farmed salmon, also animal feed, and oil for soft margarine.

Danes have been fishing in the Week Bank for some centuries, and claim traditional rights, acknowledged by the British.

June 8 - Thursday.

kippers for breakfast, a smoked fish. You later can taste them all day.

Rainy day. Out again with Rodney Payne.

"Inver" = "mouth of," in Gaelic  
Inverness, mouth of the Ness  
"den" = valley, in English  
dene

Headed south. We crossed River North Esk at scenic bridges for railroad and auto.  
county of Angus

elder, Sambucus nigra  
rowan, Sorbus acuparia  
purple comfrey  
yellow comfrey, Symphytum officinale  
hawthorn, berries are called "haws"  
pine with 2 needles  
cedar, like white cedar  
beech, Fagus sylvatica, some good ones. Edge is wavy, but not really toothed.

green finch, hardly seen  
willow warbler, hardly seen  
mergansers, a pair in the scope

Humans were coming in after the Ice Age retreat, along with the forests. But how much did the humans then modify the forests? Did they have many cattle then?

Reached Montrose Basin, a tidal basin about two square miles, through which the S. Esk reaches the sea.

mute swans, 53 of them  
pheasants

rabbits

Belgavies Loch

spearwort, Ranunculus flammula, or R. lingua

In hide: moorhen, nicely seen, something like a gallinule

male chaffinch, nicely seen. One of Europe's most abundant birds

tufted duck - with tuft well seen

coots, with two young. Red heads nicely seen. White stripe on face.  
swans

mallard hen with eight half-grown chicks

reached Forfar

reached Kirriemuir, home of James Barrie (1860-1937), children's author, author of Peter Pan.  
"Thrums" is Kirriemuir.

flyover - their term for a road or rail overpass.

Osprey - An osprey returned in 1953 and now perhaps there are 120 pairs. It used to be rare to see one, but now they are fairly frequently seen.

laburnum, with cascades of flowers.

Reached Loch of Kinnordy

gadwalls

widgeons

ruddy duck - lots of white on face, introduced from U.S., and they want to get rid of them. They interbreed with the Spanish white-headed duck

sand martin

rained all day, pretty soggy

went to second hide

great crested grebe, nicely seen

Northern marsh orchid, Dactylorhiza purpurella

reached Kirkton of Kingoldrum

reached Loch of Lintrathen. Lintrathen Wildlife Reserve, a reservoir for the city of Dundee

gorse, Ulex europaeus

broom, Sarothamnus scoparius

Deodor cedar, Cedrus deodora, long, pointed needles, both single and also bunched, especially on new season's growth, like some kind of crazy pine. Introduced.

duckweed, lots of it

blue tit - seen from hide 8-10 ft. away for 20-30 minutes

This is the bird that learned to open the milk jar tops. Blue tit is one of the ten most abundant birds in Britain.

pheasant

Back to the first hide, to look for black-necked grebe, but never found it  
swan, with 3 cygnets  
alder, Alnus glutinosa

moorhen, nicely seen

June 9 - Friday

clear weather

drove north, past Aberdeen

reached Mintlaw

Speyside is heavily promoted. "Discover Deeside," is the name of a guide in that area.

Reached New Pittsligo

Trouphead

Murray Firth, the only mainland gannetry in the U.K.

magpie

wood pigeon

start walk

bird's foot trefoil, Lotus corniculatus

common spotted orchid, Dactylorhiza fuchsii, or Dactylorhiza, pink, spotted leaves

reached the headland

gannets resting on a spit

nesting colony of gannets

2 gannets with chicks, seen in scope

fulmars

guillemots

2 puffins

common seal

grey seal, hauled out on a rock

maritime shingle = stony or rocky beach

return to car

reached Memsie

reached Lonmay

reached Crimond, the tune for the 23rd Psalm was written here by the daughter of the minister.  
Church (pix)

Lunch at Starnafin Visitor Center, a hide.

Loch of Strathberg was a bog until 1720, and a storm built a sand bar, making it now a fresh water loch.

barnacle goose  
common tern  
widgeon  
shoveler  
black headed gulls  
moorhen  
tufted duck

red fox - nicely seen, running across the way. Red fox is the only kind in Britain

rooks

gray heron, eating an eel, wriggling in its mouth. It took a minute and lots of gulping to get it down.

pigeons  
elm - but which one  
rabbits

return to Crimond. Crimond was a major airfield during the war. It is close to Norway. We drove over old runways. It is now a British navy radio installation.

yellow iris, Iris pseudoacorus, in bloom

2nd hide, Bayside Hide

great crested grebe, a pair, the hen on a nest. Seen in distance reasonably well in scope

2 mute swans  
shoveler

cuckoo flower, Caradmine pratensis, violet, four pink petals  
Thread-leaved water crowfoot, Ranunculus trichophyllus, submerged, filiform segments

3rd hide, Fen Hide, walked in over long boardwalk

goldeneye  
tufted duck  
great crested grebe  
gray heron  
tawny owl - poorly seen at a distance, hidden in a tree

return to car

kestrel

St. Mary's Chapel (pix). ruins near the sea. 10th century, though these ruins are 13th century.

Formerly here was a town, bustling royal burgh of Rattray, once a booming town, now gone. It had a castle and a church, since 1,000 A.D., 700 years, but disappeared after a 1720 storm blocked the channel with sand. Now only a former name and earthworks. Nature comes back. Here now is the Loch of Strathberg, a noted RSPB bird sanctuary.

It is the largest dune loch in Britain, surrounded by marshes, reed beds, grassland, and dunes. It is one of the primary wetland reserves in Britain.

There are a large number of geese, ducks, and swans that winter here, as do large flocks of lapwings and curlews.

Common and sandwich terns breed here, as do eiders and shelducks. There are 242 species of birds recorded here, a vital staging point for migrating birds.

The rare creeping spearwort is found here, and only along loch shores, the seeds brought by geese from Iceland.

The reserve can hold up to 20% of the world's population of pink-footed geese, from September to April.

Scarce plants such as Scot's lovage, field gentian, and Grass of Parnassus.

There are badgers and foxes present all year round. (I saw a fox there.)

See the flyer from the Reserve, on hand in files.

43 swans  
goldfinch, 6-8

small bugloss, Lycopsis arvensis, Borage family

St. Fergus Gas Terminal

Nigel Tranter, The Eastern Counties. London: Hodder and Stoughton, 1972. He is a historian. I later looked this book up at Ballater Library.

crossed river Ugie ??

buzzard - a raptor, seen flying over a field. There is only one buzzard here.

They have lots of trouble with egg collectors, egg thieves, especially of the raptors, and especially osprey.

The Cairngorms are the highest mountain mass in Britain, with six peaks over 4,000 ft. The Nature Reserve is the largest in Britain, on both Scottish National Heritage lands and private estates.

Loch Garten in the Cairngorms was made a nature reserve in 1959 to safeguard the first pair of ospreys to breed in Scotland for some 50 years. (See later.)

The nests have to be watched 24 hours or egg thieves will steal the eggs. Other nests have volunteers to watch the nests while eggs are in them. Damned egg collectors.

Rain much of the evening. Take-out pizza for supper. Quite good.

June 10, Saturday.

off at 9.00 a.m. Lovely day. Lots of blue sky.  
10-12 rabbits in fields  
pied wagtail  
magpie

white birch forests

Western Red-cedar, Thuja plicata, from Western U.S. Flattened sprays of foliage. See later on  
Lawson's cypress, Chamaecyparis lawsoniana.  
saw some Red-cedar plantations

pine forests, plantations, Pinus sylvestris  
hawthorn, Crataegus monogyna, in good flower.

drove by Crathie Church (pix)  
reached Braemar. lunch. Had a bit of a time finding the B&B.

common Laburnum, Laburnum anagyroides, a pea, 3-foliolate leaf  
common field speedwell, Veronica persica

Reached river Dee (pix)  
returned to Balmoral Castle, and walked into the grounds. Biggest trees I have seen in the U.K.  
on the grounds, especially magnificent conifers. Spruce, fir, pines, red-cedar, beech.  
song thrush

hybrid black poplar, Populus x canadensis, and makes no fruit, so none was found, in the Balmoral  
parking lot.

Western hemlock, Tsuga heterophylla, called in the book Western hemlock-spruce, a plantation of  
it.  
cowberry, Vaccinium vitis-idaea, leathery leaved low shrub

Old Brig o'Dee (Bridge over the Dee) (pix)  
lovely day, but rained all evenings.

News item: The John Muir Society is buying up Ben Nevis.

June 11 - Sunday

Sunny at the start, but dark clouds come and go. Drove to Glenshee Ski Area. Rain en route.  
Reached the pass at the top of the Braemar-Perth road.

Hiked up Cairn Asoda, 3,003 ft. Manageable weather, though windy. Some blue sky, mostly  
clouds and some spitting rain.

I made my way around a rim to Cairnwell, an adjacent summit. Passed Loch Vrotachan (pix).  
5 hares.

red grouse hen with 8 chicks. Nice sight, close in and the chicks were tiny and running all around  
widely scattered from her, sometimes six feet from me.

Eventually she sulked into the heather.

Heather, Sphagnum moss, and grass, sedges, or rush. Polytrichum moss.

But I failed to make the Cairnwell summit, as clouds socked it in, and high wind. Turned back 100 yards from the summit. Spitting rain and poor visibility all the way down. Made my way down more or less under a ski lift. Maybe 4 miles of hiking.

Late lunch back at the car. Weather opened up some. Off and on sunny bright, but Cairnwell stayed at cloud level.

Napped in hard rain and wind shaking the car.  
Drove on to Spittal of Glenshee.

The old Devil's Elbow is no more. The new road straightens it out, though down below are some remnants of the old double hairpin turns that used to be so famous. I drove up the famed "Elbow" in the Fiat when I was in school in Edinburgh.

Alpine Ladies mantle, Alchemillea alpina, 4 sepals, no petals. Attractive palmate leaf.  
strawberry, Fragaria vesca  
pipit, presumably a meadow pipit.

On the return there were 13 red deer (= elk) below Cairn Asoda, and not that far from the road (pix). Seemed to be stags in velvet with does.  
Rain and cloudy bright off and on all day.

June 12 - Monday

cloudy. rabbits, and they do decidedly have burrows here, more than in the U.S.  
blackbirds

reached the Linn of Dee. Walked to the Chest of Dee. Cloudy but scenic. Good headwind all the day.

moss, looks like Hylocomnium splendum

14 red deer (= elk), crossing the Dee on the hike back. Watched them 20 minutes, and as I drew closer they got nervous and crossed the river. Great sight in binoculars.

Red deer (Cervus elaphus) are considered by some to be the same species as the American elk, Cervus canadensis. But they are less well fed here and smaller. The population has increased and is thought to damage forests extensively. 300,000 here. 50,000-60,000 a year are culled. "Elk" here is the name the Americans call a "moose."

Easier walking out with the wind at my back and some brighter weather.

chaffinch. Double white wing bars and white outer tail feathers, gets the females.

great tit - nicely seen

Return to car.

Much of Scotland is thought to have been anciently covered with pine forests, called the Caledonian Pine Forest.

There are 3,500 wildcats in Britain, mostly in Scotland, but they have so interbred with feral cats that the species is in doubt.

capercaillie - a turkey sized bird (a big grouse), extinct in Scotland in the late 1700's, and reintroduced in 1837, recently much in decline.

bilberry, Vaccinium myrtillis, ground cover here.

cowberry, Vaccinium vitis-idaea, again

red squirrel - seen at Linn of Dee

June 13, Tuesday.

The wind blew hard all night. Cloudy bright, off and on. Spitting rain.

blackbirds

wagtail

3 red deer, right in town (pix), nice antlers

rabbit

bracken, Ptilium aquilinum

I took the South Deeside road from Balmoral to Ballater. Came across a nice herd of Scot's cattle (pix).

Sunny and pretty, but so windy it was hard to enjoy anything outside.

Did my wash in a caravan camp in Ballater, over lunch.

I took the South Deeside road again from Aboyne to Banchory. Too much fast traffic on the A93.

Gassed up and Safeway stop in Banchory, and on to Aberdeen to check in at B&B, and get set up for Jane's arrival, hopefully a little past midnight, if she makes her train connections.

Newscast: strongest June winds in Scotland in 30 years. Low pressure is the lowest ever recorded in the Atlantic in June. Waves in the Shetlands have been two stories high. Much damage to seabirds, I suppose to some that I have recently seen. Gusts in mainland Scotland over 80 mph, and over 1,000 homes without power.

12.20 a.m. Jane arrives, right on schedule, a 2-3 car train, in the middle of the night, in an otherwise empty train station.

June 14, Wednesday.

lovely day. We set off for Inverness, John O'Groats, and Orkney.

Drove to Alford, then Kildrummy Castle, a ruin, notable and scenic, from 13th century. Robert the Bruce sent his children here for safety in 1306. A blacksmith betrayed them, promised gold, and they poured molten gold down his mouth!

Drove over some high country (Ladden Hills), with a ski area, then down to Granton-on-Spey.

Visited Loch Garton Natural Reserve, and Osprey Centre.

There was an osprey on the nest, with two chicks. Nicely seen with scopes in the center, and even a close-up with monitoring TV camera.

1750 - ospreys common in Britain  
1790 - ospreys persecuted, numbers plunge  
1842 - no ospreys in England  
1916 - ospreys extinct in Scotland  
1954 - an osprey returned naturally  
1960 - Operation Osprey, 14,000 people visit here  
1976 - Reserve purchased  
1985 - one million people have visited the Centre  
1998 - 130 ospreys in Britain, 200 young fledged.

We reached Inverness and checked in B&B, with some trouble finding it.

Drove out to Culloden Battlefield, walked around.  
Dinner of Brewer's Fayre restaurant, not all that good food.

June 15 - Thursday.

Lovely day again! Sent fax to Dale Jamieson, on Chinese contacts.

We drove north over Black Isle, a peninsula.

Then over an alternative road, Route 836, over the hills and reached Dornoch Firth and Bonar Bridge.

(not knowing from my 10 year old atlas that a new bridge now replaces the old ferry and cuts out the long horseshoe up to Bonar Bridge)

Drove up the coast. Lunch overlooking the sea at Dunbeath.

stonechat - nicely seen while eating lunch, and with sheep nearby.

hedgehog - killed on road. We stopped and walked back to see it, in quite good condition.

reached Wick.

reached John o'Groats.

lovely weather

checked in B&B a short distance from John o'Groats.

Much development since we were here in 1957.

The flag pole at the hotel is on the site of John o'Groats house. He ran the ferry.

We found his gravestone, now in Canisby Church, a few miles away. Died in 1568. There has been a church here since 1222 at least.

There is a bridge at the old mill across from our B&B farmhouse which is 350 years old. Cromwell's men built it in 1651.

Toward evening, we drove out to Duncansby head.

3 stacks of Duncansby (pix).

Island of Stroma, visible in the distance

June 16 - Friday

Drove by Moy and looked at the castle of Moy, owned by the Queen Mother, now 100 years old, from a distance, but seen nicely.

Drove to Dunnet Head, the northernmost point of land in Britain.

Caught the ferry to Orkney at 12.00 noon.

The ferry went close by the Old Man of Hoy, a standing pillar, off spectacular cliffs. Hoy is the island here, 12 miles x 6 miles, Orkney's only hilly island.

Reached Stromness.

Drove to Stenness.

Standing stones of Stenness (pix), from 3,000 B.C. to 2,000 B.C., originally 12 stones. Only four stones still stand, one of them 17 feet high. Quite impressive.

Checked in at B&B, a farmhouse with a majestic view of a bay, called Clestron Sound and Bring Deeps, and the island of Hoy. Mrs. M. Swannie.

Drive to Kirkwall.

Went to St. Magnus Cathedral.

Drove south to St. Margaret's Hope

Scapa Flow is to the West, a large protected sea area, enclosed by the "mainland" island and other islands. Famous as a major fleet base in 1914-18 and in 1939-45. It was the scene of the sinking of a German fleet after World War I, also a staging ground for the British fleet in World War II.

Dinner in St. Margaret's Hope, and drove on s. to Burwick.

Returned.

June 17, Saturday.

We returned to Stones of Stenness.

bleaker, windy weather.

Then on to the Ring of Brodgar, on a bleak moorland isthmus. There were originally probably 60 stones, 27 are still upright.

Then on to Skara Brae, the best preserved Neolithic village in Northern Europe. 3,100 to 2,500 B.C., from radiocarbon dating of animal bones. One of the world's oldest sites, older than the pyramids or Stonehenge. Well preserved because it was buried by sand until 1850 A.D.

The bones are of cattle and sheep, some pigs, some deer antlers. They grew barley. They also ate fish.

There was hard rain while we were at the excavations, and we got wet.

New Stone Age, no metals discovered.

They farmed, fished, hunted.

Old Stone Age, back to 2.5 million years

Middle Stone Age, 10,000 to 4,000 B.C.

New Stone Age, 4,000 to 2,500 B.C.

lunched at Skara Brae, in nice visitor center.

We drove on to St. Magnus Church, this one (same name as that in Kirkwall) is in a village adjacent to Earl's Palace. The original church here was in 1,064 A.D., but this building is from 1760.

This is believed to be where St. Magnus' body was taken, after his murder, by his cousin, Hakon in 1115. His remains were later re-interred in St. Magnus Cathedral in Kirkwall.

Earl's Palace, built late 16th century by an illegitimate son of James V, and a pretty abominable character.

I walked over a causeway that is above water at low tide to an island, with the Brough of Birsay, a Nordic brough in ruins.

skua  
fulmars  
curlew

We drove south to Maeshowe, or Maes Howe, a mound in a field with a chambered tomb, accepted as the finest chambered tomb in Europe. 2,700 B.C. We had to crawl 10 meters ( 36 feet) to enter it.

They buried mostly skulls in ceremonial crypts here.

In mid-12th century A.D., 3,850 years later (!), the Vikings broke in and vandalized it. They also cut runes in the stones of the walls, now the largest collection in the world of runic inscriptions to be found in one place.

Also carvings of a dragon, an osprey, and two serpents.

At the winter solstice, sunlight comes in the door chamber passage.

These are immense stones and were brought 7 miles. One weighs over 3 tons.

[maeshowe.mypage.org](http://maeshowe.mypage.org) - a website that shows the winter solstice light coming in on Dec. 21, or whenever.

Various swans on the lochs  
lots of oystercatchers

This is a treeless landscape. Wind and salt air trim the would-be trees back to a scruffy hedge. Only where there is a stone wall or a house will there be trees, wind-pruned to a low curve. They are blasted by salt in winter gales.

The ancient flora here is thought to have been birch and hazel scrub.

Cattle have to be indoors, November to May.

Bere, an ancient form of barley, is found in Neolithic tombs, and is still grow in small amounts. Barley ([Hordeum vulgare](#)) is thought to be the oldest grain crop, likely originated in Western Asia. The plant resembles wheat ([Triticum aestivum](#)), but does not grow as tall. It will thrive in colder climates than wheat or rye. It is a favorite for making malt beverages. Barley meal is much used

for baking in Europe, but lacks favor in America. Used in cereal and soups.

The adjective for Orkney is: Orcadian

Four-horned sheep near the B&B (pix). This is a Jacob sheep, from England, said to be mentioned in the Bible.

June 18, Sunday.

lovely day and no wind.

drove to Kirkwall for a service in St. Magnus Cathedral. This is part of the Arts Festival. A majestic service.

Drove to Stromness for the ferry at 2.00, departing 3.00.

fulmars  
kittiwakes  
one skua

back in mainland Scotland, off the ferry at 5.00 p.m.

We drove south to Golspie.

Spent the night there with a Mrs. Graham, elderly woman, long here, married to a forester once, originally Belgian.

Took a walk in the evening past some crofter's cabins, in ruin  
oaks

rowan tree

sycamore = maple

Some quite fine trees in a woodland below her home.

She says both roe deer and red deer (= elk) are here.

4 rabbits.

June 19, Monday.

Mrs. Graham was a Belgian war bride after World War II. Now she is 82, and played a piece for us on her grand piano, while we ate breakfast. Her sister was a concert pianist and had the piano.

Mrs. Graham has a daughter who is a biochemist, took a Ph.D. at the University of Edinburgh. And all this from an otherwise very humble farmhouse, back up in the hills--though with a fine view over the North Sea.

We took her to Inverness. She would ride the bus back and walk up the hill, 1 1/2 miles home.

Reached Inverness and Jane went to wool store.

Drove south on A 9.

Lunched at Keigh, near a park.

Mostly cloudy day, though some bright spots.

Reached Aberdeen about 3.30 p.m.

Went into town to check on the train tomorrow, and had supper at the Pizza Hut.

June 20 - Tuesday.

I dropped the rental car in their parking lot, 6.15 a.m., having left Jane at the train station. Got

crapped on by a seagull walking back. Big mess, but there was hot water in the train station to clean it up some.

7.03 a.m. train to Glasgow.  
2 hour wait and change of station there.  
train to Stranraer, the ferry departure point.

Took the ferry over the Irish Sea to Belfast, on Stena HSS, the world's largest, fastest ferry. The ferry does 50 mph with up to 400 cars and 1,200 people. Not crowded at all. The ferry was a big floating restaurant, even with a big McDonalds in the middle of it. Overcast day and rather unscenic.

Taxi to B&B, decent but room was on 4th floor. There are often narrow stairs here, and the wedge shapes from spiral stairs don't make it any easier lugging the big suitcase up and down.

June 24, Wednesday.

Day in Belfast

Walked into town. Went to train station to figure out the journey to Cork tomorrow.

took City Hopper bus tour.  
Back to town centre and the city hall.  
But no public toilers, and had a hard time finding one.

We caught the bus to a mill shop for Jane, where she bought linen sheets. All this brought on because mother gave Jane some sheets that Willie Lee gave mother for her wedding, and these have worn out.

There was hard rain waiting for the bus after buying the sheets. A struggle not to get wet.

Back to B&B

Bomb explosion in town while we were here.

Later: July 4, when we were in Killarney, police use water cannons to dispel crowds, first time in four years. Also, the train line from Belfast to Dublin was closed (half a day or so) by an explosion, a week later.

The Titanic was built in Belfast shipyards.

June 22 - Thursday

Train to Dublin, quite nice train.

But, alas, we discovered there was a train strike in Dublin and we had to catch a bus to Cork, arriving late. Warnings over the loudspeaker about pickpockets in the Dublin bus station!

June 23 - Friday

We spent the morning doing the laundry, finding a nearby laundromat closed. We had to hike over to another. Then to the city centre to work out the bus transfer to Bunratty.

Afternoon, conference at University of Ireland, Cork. Pizza supper with Robin Attfield and

Christopher Preston.

My sore rump from the China fall seems pretty well gone.

June 24, Saturday.

Conference continues. I made a plenary address, 5.45 to 6.45, "Enforcing Environmental Ethics."

Conference banquet, at Cafe Paradiso, said to be Ireland's best vegetarian restaurant. Ate dinner with Emily Brady, Lancaster, and Arto Haapla, Helsinki, who are engaged.

The library at Cork is named for Boole, mathematician here and originator of Boolean logic, used in computers.

June 25 - Sunday.

Conference in the morning, then taxi to bus station, and bus to Limerick and Bunratty, a village and large hotel. Lovely day.

General notes on Ireland and its natural history:

"Ireland has a long and proud tradition of natural history, and some of its leading naturalists have made outstanding contributions to the knowledge and understanding of its important segment of the European fauna and flora. Some of its most distinctive features have achieved fame as gems of the international scene of natural wonders: the fantastic limestone pavements of the Burren with their unique plant assemblage; the desolate blanket bogs and rocky heaths of Mayo and Connemara; the magnificent mossy oak woods of Kerry and Cork; the spectacular seabird islands and headlands, and the greatly varied series of lakes and fens among both lowlands and mountains." For an introduction see David Cabot, general editor, Ireland: A Natural History. London: HarperCollins, 1999. ISBN 0-00-220080-5, from which the above quotation is taken, editor's preface. Chapter 12 is, "Conservation of Nature," pp. 421-443.

Ireland, like many European countries, has a long history of fluctuating fortunes of wild nature, especially adversely affected by draining wetlands, particularly turloughs (seasonal lakes) and by overgrazing, especially by sheep. Overgrazing produces irreversible damage by erosion. There is an ambitious afforestation program, constituting the greatest land use change taking place in Ireland today. Much of the planting is of exotic conifers--sitka spruce and lodgepole pine--and often on blanket bogland, with environmentalists doubtful of the wisdom of such plantings. Peat cutting, both by private individuals and commercially, often destroys boglands, especially raised bogs. Salmon farms are thought to have contributed to the collapse of sea trout in the rivers.

Tourism has escalated, with many visitors drawn by the scenic natural environments. In 1994, the number of overseas tourists, 3.7 million, exceeded the number of residents in the Republic, and in recent years that number has risen to over 9 million, swamping the residents three to one. To cater to visitors, a proliferating infrastructure of interpretive centers, visitor centers, shops, hotels, car parks, nature trails, toilet facilities are springing up, often with controversies about their location in otherwise natural areas. In the Republic, some 1,200 Natural Heritage Areas have been identified, as yet without statutory protection, although no EU or government grants are permitted on such areas. Northern Ireland has designated 11 Special Protection Areas. There are five National Parks in the Republic; none in Northern Ireland, although there are a series of Countryside Parks.

Joined the tour.

Attended a "ceili" (pronounced kay-lee) in the evening. Dinner and Irish music and dancing.

Our tour leader is Willie Guilefoyle.

The bus is cramped, narrow seats, aisle. No leg room, and poor overhead compartments.

June 26 - Monday Galway-Connemara  
lovely day. Departed for Cliffs of Moher.

Passed walled estates. The walls run around thousands of acres. Often called "penny walls," or "famine walls," masons were paid a penny a day during the famine to build them. Minimum wage in Ireland now is I£ 4.50 per hour, recently introduced, and higher than the U.S. minimum wage.

The main castles had outer castles, called "keeps," where they kept watch over the bigger castle. They lit fires for an alarm.

The Shannon River is the longest river in the British Isles, with many miles of navigable waters.

We drove through grasslands, limestone country, lots of stone fences

Reached Cliffs of Moher (pix)  
and Galway Bay beyond (pix)  
puffins, nicely seen though at a distance.  
guillemots and/or razorbills

chough (a red legged crow) - several seen close up, on hillside, nicely seen. They are not that common in Britain. The west coast of Ireland is a stronghold.

magpies  
jackdaws  
rooks

Aran Islands, visible in distance  
3 islands in the Arans, 1,400 people. Fishing and tourism. Many speak Gaelic as their first language.

Reached The Burren (pronounced "burn")

"Lough" - is the spelling here for the Scots "loch."  
turlough - a disappearing loch, it fills with water when it rains, and later seeps out.  
grey heron

Aillwee Cave - they found a bear skeleton in it, proving that there were once bears in Ireland.

grey stone fences across a grey stone landscape.

lunch at a "farmer's house" - Rathbaun Farm.

swallow  
chaffinch

shrub, Philadelphus (family Hydrangeaceae/Philadelphaceae), fragrant, showy 4-petalled, cup or bowl shaped flowers, simple, opposite leaves. Several species, brought in from Himalayas, Asia, Central America, U.S. Northwest. Good specimens in the farmer's garden.

Demonstration of a sheep dog working (pix)  
sheep shearing

Jacob sheep - with four horns  
mentioned in Bible  
spotted sheep, with colored wool.

reached Galway.

lynch - from Mayor Lynch, who hung his own son.

Visited Galway Cathedral, recently built.  
Passed University of Ireland, Galway = University College, Galway.

Reached Barma, a little west of Galway, and Connemara Coast Hotel, right on the sea.

Lovely day continues.

Lots of wild cabbage, Brassica oleracea, a big yellow mustard, about waist high, the ancestral cabbage.

rock pips, along the shore

dinner

We watched the "sun go down o'er Galway Bay"--though it actually set to the north of our vantage point on the Bay.

June 27, Tuesday.

Connemara, Kylemore Abbey, Connemara Marble Factory.  
Great weather continues.

Stopped a woolen/linen shop, with too many big busses on too small a street, and a big bus jam.

yellow iris

swans, with cygnets

Twelve Pins, a mountain range, nicely visible, with 12 peaks.

An incredible labyrinth of stone fences, small plots, forming a jigsaw puzzle on a rocky/green landscape. (pix)

lots of loughs (=lochs)

Peat cutting. We watched a man cutting peat with a special shovel.

This is a picturesque landscape, though it would be difficult to earn a living on it.  
blanket bogs

lunch in Clifden, bright and sunny, touristy town.

climbed to higher country.

raised bogs.

more peat cutting, now by machine.

"turf" - their name for dried peat.

gorse here is past bloom.

cotton grass

Kylemore Abbey (pix), now a Roman Catholic school for girls, Benedictine, once a "castle."

With a good guide to the trees along a lakeside walk.

Lough Corrib - a large loch here, 27 km. long, visible off and on.

visit to marble factory

Returned to Connemara Coast Hotel. I got on treadmill to jog 20 minutes. I am getting out of shape.

Irish yew. Taxus baccata var. fastigiata. A yew tree, native to most of Europe, in an Irish variety with a "castled" appearance, upright branch growth. Propagated by cuttings.

Linden. Tilia x europaea, a hybrid of one or more Tilias in Europe. Also here called a lime tree. cf. Basswood.

A dominant tree in ancient lowland England was lime, Tilia cordata. The American tree is Tilia americana, basswood, or linden. This is confirmed in fossil pollen studies. Lime is sensitive to browsing by deer, rabbits, and sheep, as is basswood. Also it doesn't seem to grow well in soils that have been disturbed for farming or pasture.

Coppice - cutting the underwood every few years, mostly for fuel. Some English woods have been coppiced up to seventy times. Some trees, such as ash, that might live in the wild 200 years, have been coppiced and continue to live for many centuries, the stump or "stool" sprouts new rings outward, and such rings may be 18 feet across.

Monkey puzzle tree, Araucaria araucana, from Chile and Argentina.

Monterrey pine, Pinus radiata, from California. Needles in 3's.

Scot's pine, Pinus sylvestris, was an important Irish tree until 4,000 years ago, but diminished with human use and warming climate in Ireland.

sycamore, Acer pseudoplatanus. Native to Central and Southern Europe.

sessile oak, Quercus petraea, sessile acorns, but stalked leaves, w/o lobes. hybridizes with English oak, native here and in Europe.

English oak, Quercus robur, = pedunculate oak. long-stalked acorns. native to much of Europe. Leaf base with two ear-like lobes. One or two acorns on a 2 inch stalk. Later well seen. English oaks can live up to 1,000 years, renowned as a symbol of durability and longevity.

common larch. Larix decidua

Sitka spruce. Picea sitchensis, west coast of N. America. Sitka was the capital of Alaska when it was a colony of Russia.

rowan - Mtn. ash. Sorbus aucuparia. Native to Europe. "rowan" is from the Gaelic, "ruadh-an" =

"red" from the red berries.

hazel, Corylus avellana. Native, bark a little silvery.

Alder, Alnus glutinosa.

Western red cedar, Thuja plicata. Gelderen, Conifers, has pictures of a dozen so varieties, cultivars, of this species.

Lawson's cypress, Chamaecyparis lawsoniana. Peter Lawson, an Edinburgh botanist. Something like a red cedar. Native to California and a little in Oregon. Called also Port Orford cedar. Gelderen, Conifers, has pictures of a hundred or so varieties, cultivars, of this species, which often look like quite different species, and more or less, superficially, like Thuja plicata.

Chamaecyparis typically has lateral leaves that meet in a visible seam below the facial leaves. Thuja typically has lateral leaves that do not meet in a visible seam below the facial leaves, but are more spread apart. See pix in Cope, Edward, Native and Cultivated Conifers of Northeastern North America, pp. 24-25, p. 50.

horse chestnut, Aesculus hippocastanum, native of Greece and Albania.

ash, Fraxinus excelsior. native

June 28, Wednesday.

Connemara, Sligo, Drumcliff (and Yeats' grave), and into Northern Ireland.

white water lily, Nuphar alba

yellow water lily, Nuphar lutea

reached Clonalis, home of O'Connor, claimed to be the oldest royal family in Europe, back to 1100 B.C. Toured the home here, with lady of the house as a guide. They have been living here since 1,000 A.D., though this house is from the 1870's. In the yard, a large stone on which O'Connor nobility were crowned.

Titles are not allowed in the present Irish constitution, though there are some exceptions.

Seen here: Turlough O'Carolan's harp, Blue Guide, p. 452.

copper birch, Fagus sylvatica, var. "purpurea." Deep purplish foliage, a variant of the ordinary birch.

This may be an Irish estate going back 1,000 years, but the most striking trees on the estate are from Western N. America. Western Red Cedar, and Lawson's cypress.

In the home there is a "manuscript room," and papers with signatures of Louis XIV of France, and Charles II of England.

Saw, in passing, Boyle Abbey, a Cistercian abbey, ruins from 1200's, plundered by Cromwell's troops.

Loch Arrow

lunch in Sligo, a town associated with W. B. Yeats, Irish poet.

Visited W. B. Yeats' grave at Drumcliff Church (a Church of Ireland, Episcopal!), in a country 94% Catholic.

Inscription:

"Cast a cold eye  
On life, on death.  
Horseman, pass by!"

--whatever that means!

Donegal Bay.

Crossed into Northern Ireland at Belleek.  
Toured pottery factory at Belleek.

Lower Lough Erne  
Drove over a long, narrow Boa Island, a drumlin.

Reached Manor House Hotel on Lough Erne, near Killadeas (nearest town of size, Enniskillen).

great crested grebe, on the lake after supper, nicely seen.

June 29 - Thursday

Boat ride to Devenish Island.  
Ruins there, going back to St. Molaise.  
5th century in history, but oldest of the existing ruins is 12th century.  
St. Molaise "house" (or church) (pix).

There is here a tall round tower, said to be 12th century, but obviously not so. There is a remnant circle of stones adjacent, probably the foundation of the 12th century tower.

Also a priory, 17th century.

Reached Enniskillen.  
swans  
great crested grebe (several)  
coot

eels, swim from the Sargasso Sea to here, and get blocked by hydroelectric dams, and are trucked around the dams.

Mead -- made of apples and honey. Said to guarantee fertility and virility, and given to newlyweds for a month, or moonth. Hence: honey-moon.

In Enniskillen, a school, Portora Royal School, attended by Henry Frances Lyte, who wrote "Abide with Me," and "Praise my Soul, the King of Heaven."

also attended by Oscar Wilde, and Samuel Beckett.

One of the great ironies of Irish history is that the present Protestant unionists, so much desiring to remain with Britain (England), are the same people whose ancestors, Scots and Scotch-Irish, so disliked the English and fled to the New World and fought for their independence.

Visit to Ulster-American Folk Park. Seems to have been funded largely by the Mellons.

Thomas Mellon (1813-1908), born here, emigrated at age 5 to Pittsburgh, and was primarily a judge. But he started the Mellon Bank, later made famous by Andrew Mellon, his son.

Bessy Bell and Mary Gray, two hills named after the heroines of a Perthshire ballad, by one of the Scottish lords of Newtown Stewart. Two hills outside Staunton, Virginia, well known to daddy, carried the same names, brought over by the Scotch-Irish.

"beyond the pale" -- The English nobility retreated to an area around Dublin, called the Pale. Blue Guide, Ireland, map, p. 111, p. 115, p. 48. Everybody else was "beyond the Pale."

plantations -- a movement for settlement of large numbers of people, replanting the elsewhere. So the Scots moved to Ireland were "plantations."

It is only 13 miles from Scotland to Ireland at the narrowest point.

Reached Londonderry (= Derry), and stroll around town.  
Walked up on the old town wall (pix).

Ogham alphabet, 20 letters, see Blue Guide, Ireland, p. 4.

Reached Port Rush, seaside town. We were in a hotel some distance from the sea, however. Did some jogging down the road, walked toward town a bit after supper.

The potato blight is Phytophthora infestans.

June 30, Friday.

Overcast, then brighter.

Passed Dunluce Castle, with picturesque towers and gables, a spectacular location. The castle is built on projecting rock, separated from the mainland by a deep chasm. From A.D. 1300 on.  
(pix)

Reached Giant's Causeway.  
columnar basalt (various pix)

Scotland is visible in the distance (13 miles away). Mull of Kintyre.  
Will this be the last time I see it?

Rathlin Island - seen off the coast, said to be where Bruce hid out, and watched his spider (pix).

Scotland, seen from Ireland (pix)

Reached Ballycastle. Lunch on a park bench.

On August 26, 1898, Marconi made a famous transmission of radio signals from Rathlin Island to Ballycastle, and this resulted in radio transmitters on all the lighthouses in Britain.

Marconi's daughter dedicated a plaque here in 1998. The daughter of the inventor of radio stood here two years ago, and think what radio has done to the world in that century, with television and video appearing since I myself was in high school.

Continued along the coast.  
moors and heather  
Antrim Hills

Then some glens, in the Forest of Antrim, and some good forests here.

thru Ballymena

Then to Bushmills Distillery, the world's oldest distillery, from 1608, although whiskey has been distilled here from the 1300's. Irish monks first made whiskey in the 1100's, discovering it from flasks originally used to make perfume.

The root word is "water of life," corrupted and altered to whiskey.

Returned to Port Rush, dinner, and danced in an Irish pub!

July 1, Saturday

Lovely day. We are lucky with the weather.  
Drive to Belfast.  
Walked around City Hall.

On to Downpatrick, and visit to St. Patrick's grave, and St. Patrick's Cathedral (Church of Ireland, Episcopal). St. Patrick is buried here, more or less, probably originally under the present church, with a stone on a mound nearby, supposedly with the graves of St. Patrick, St. Brigid, and St. Columba, the latter two moved here.

The present stone, though it looks old, is really recent.

Some of St. Columba's bones are said to be in an antiquarian chest in Edinburgh.

The church seems to have been variously destroyed and rebuilt several times. This one isn't old (1818).

On to Dublin and hotel Burlington.

Supper and theatre out, to the tune of \$ 142.00!!

Old Dublin Restaurant, founded in 1970!!

Theatre play, Sean O'Casey (1880-1964), The Plough and the Stars. On the plight of Irish women in the Irish rebellion of 1916. But the actors had such heavy Irish accents that we couldn't

understand it.

O'Casey's Plough was controversial. Critics said the Irish Patriots were depicted in a scruffy light, the Irish women as looters and prostitutes. The play was full of immorality and several of the initial actresses refused to perform it.

O'Casey later quarrelled with W. B. Yeats and O'Casey went to England, never to return.

July 2, Sunday.  
beautiful day.  
bus tour around Dublin.

En route, we passed Catholic University, founded by Cardinal John Henry Newman. Gerald Manley Hopkins was professor of classics here. James Joyce was a student here.

Then to St. Patrick's Cathedral, now Church of Ireland (Episcopal), on a site associated with St. Patrick. A church has stood here since the 5th century. St. Patrick is supposed to have baptized people at a well here. In excavations c. 1900, an old well cover was found six feet down, actually two of them, now seen in a corner of the church.

This building is 13th century, and 1700's.

Jonathan Swift (wrote Gulliver's Travels) was dean here 1713-1745. Bust of Swift in the church. Swift's grave is here. Swift was always the champion of the poor and ready to rail at government corruption and stupidity.

Handel's Messiah was first performed, world premiere, in Dublin (though not in this church), sung by the choirs of St. Patrick's and Christ Church Cathedral in 1742.

The two main St. Patrick Cathedral sites (burial site and baptismal well) are both Church of Ireland, Episcopal. Neither is Roman Catholic.

Drove through Phoenix Park.

Return to Trinity College (known as TCD, Trinity College Dublin), oldest university in Ireland, from 1592, and long Anglican.

Book of Kells - seen in dim light in a crowded room. From the 800's.  
An illuminated Latin gospel, from Kells around 800, or maybe from Iona. Said to be (among) the most beautiful illuminated manuscripts in the world.

Also Book of Dimma, 8th century  
Also Book of Armagh

Also on display: a harp said to be oldest to survive in Ireland, 15th century, and the national symbol, which appears on Irish coins.

Bust of Archbishop James Ussher (of Scofield Bible fame).

Lunch in a food shop there.

After lunch, I went to the Museum of Natural History.

3 Irish "elk," or more accurately Irish deer, Megaloceros giganteus, two with huge antlers and splendidly preserved, a third one without antlers. The largest of all cervids. Extinct since 10,000 B.C. or 8,000 B.C., though some think it survived later. They grew new antlers each year, and the antlers grew exponentially in relation to other body parts (called allometry). The reason for their extinction is speculative.

There is a booklet, Extinct Animals of Ireland, Irish Museum of Natural History. But I couldn't get a copy (later: nor could I get one InterLibrary Loan, when back home).

Met Jane, and walked to St. Patrick's Cathedral again for a choral evensong, sung by a choir from Corpus Christi, Cambridge, followed by an address by a rabbi.

Then we walked through St. Stephen's Green (a Park), and to an antique fair. I bought a fossil trilobite, from Morocco, Atlas Mountains.

Then we walked through Fitzpatrick Square. Took a picture of house # 46, which is on the cover of the current, Blue Guide, Ireland.

Dinner en route back to the hotel.

July 3, Monday.

Dublin - Waterford.

overcast day.

Rode through Donneybrook, a town, really a subdivision of Dublin. This was once the scene of a farmer's fair and market, with fights. Founded by King John in 1204 and suppressed in 1855, so it went on 600 years. But there were too many fights.

Drove through Wicklow Mountains, the most forested lands in Ireland, oak forests, as once covered much of Ireland.

Reached Glendalough, a monastic ruins dating from St. Kevin (died 618), ruins from 6th century, monastery active to 11th century.  
round tower (pix)

St. Kevin's "kitchen" - a church (pix)

We rode through Vale of Clara.

Vale of Avoca.

deer seen

Some good forests, though oaks not much in evidence, a few of them seen.

The deer in Ireland are:

- (1) fallow deer, Dama dama. Introduced by Normans, 13th century, from Mediterranean area.
- (2) red deer, Cervus elaphus (= American elk), only in Killarney National Park.
- (3) Sika deer, Cervus nippon, introduced from Japan.

Passed the residence of Charles Stuart Parnell.

"boycott" - from an English Lord, who exacted high rents. His tenants were organized by Charles Stuart Parnell, and refused to harvest his crops. They called in the English army to harvest the crops, but he had to pay the army, and this bankrupted him. Blue Guide, Ireland. p. 30.

Thomas Moore, wrote "Believe Me if All Those Endearing Young Charms" for the Duke of Wellington (of Spanish Armada fame). His lovely fiancée had become pock-marked by small pox and she feared he wouldn't want to marry her. So Wellington had Moore write this poem.

But, alas, Moore had a love affair with a married woman in a nearby castle, who would run up a flag if the way was clear for him to come.

Meeting of the Waters (pix) and a famous ballad. The meeting is the confluence of the Avonmore and the Avonbeg (meaning little and big Avon).

tinkers - like gypsies. Various groups of 3-6 trailers often seen roadside here and there. Always with the washing out, with an old Irish law that the police can't force them to move until their washing is dry!

lunch in Gorey.

Shamrocks - found in fields or lawns, but only in the spring. A shamrock is just a clover, Trifolium dubium, = Yellow clover. That is the plant usually worn as shamrock. Trifolium repens, if small, may be worn as shamrock, or even Medicago lupulina, similar to yellow clover. St. Patrick used it to explain the Trinity, by legend, but there is no such reference in the literature until 1727. The earliest references are to eating it in time of need. It has been a badge of Irish identity since 1681. Webb, et al., An Irish Flora.

We reached Enniscorthy and Vinegar Hill, recalling a rebellion of 1798, led by Father Murphy, 500 killed. A ballad recalling this is "Boo-lavogue," - on The Irish Tenors, CD I have.

Reached Waterford, and took walking tour. A Viking city originally, a walled enclosure on the bank of the Suir ? River, 9-10 century.

Viking walls remain. Captured by Normans in 1170.

A famous figure is Strongbow, 1171, and a marriage to Aoife (= Eve), politically important.

Visited Reginald's Tower, possibly dating from 1003, one of the oldest such towers.

Also the ruins of a Blackfriar's priory, 1226.

Reached a B&B for the night.

Took a walk after supper. Badger killed on roadside.

starboard = styri, = rudder, since the steering rudder was on the right side.  
port = left, the side put into port.

July 4, Tuesday.

We toured Waterford Crystal plant.

Drove the "famine road" toward Cork. Nearby Cobh (then Queenstown) was a major emigration port during the potato blight, 1845-1849.

There were absentee British landlords with plenty of grain and cattle, grown in Ireland, but the peasants ate potatoes. They evicted tenants who couldn't pay. Knocked their cottages down.

Mass immigration on "coffin ships," where many died of hunger and disease.

Reached Youghal (pronounced "yawl," almost "you-all."  
Then Cork.

Reached Blarney, just outside Cork.

Lunch on a park picnic table.

Visited Blarney Castle, 15th century, and I kissed the Blarney Stone! with an hour and forty minutes wait, first to get in the tower, then climbing 124 steps a few every five minutes to the top, where you turn upside down to kiss the stone.

The Blarney stone nonsense was unknown at the beginning of the 19th century (1800). But "blarney" as the gift of eloquence goes back to Queen Elizabeth I, after a succession of evasive answers by a McCarthy lord of the day.

Winston Churchill kissed the Blarney stone in 1912!

Drove on and reached Macroom, birthplace of Admiral Sir William Penn (1621-1670), father of the founder of Pennsylvania.

Reached Killarney, driving through the Derrynasaggart Mountains. Hard rain en route.

In Killarney

good bookstore here.

Ivy-leaved Toadflax, Cymbalaria muralis, ivy-like, 5-9 lobed leaves, lobes triangular. Flowers purple, with a spur, a little violet-like. Family: Scrophulariaceae. I had been seeing this all the time, and wondering what it was, and nobody knew. Introduced in 1640 from the Mediterranean, and long-established in walls.

July 4, Wednesday

Pretty overcast, when we need good weather for the Ring of Kerry.

The Ring of Kerry is a drive around the Iveragh Peninsula. The next peninsula up (north) is the Dingle Peninsula, seen in the distance.

Reached Killorglin. Peat bogs, mountains on the skyline.  
River Caragh, coming down a valley (pix).

Fuchsia, Fuchsia magellanica. A prominent shrub, red in flower, forming roadside hedges. Onagraceae. Planted for hedges in Western Ireland especially. Introduced from South America.

Foxglove, Digitalis purpurea, bell calyx, 4 stamens, tall spike, purple

Carhan House, a ruin, the birthplace of Daniel O'Connell ?? (1775-1847), who led Catholic emancipation. "The Liberator," Blue Guide, Ireland, p. 282.

reached Cahirsiveen

Valentine Island - seen nearby. The trans-Atlantic cable was laid from here to Newfoundland in 1865.

We passed a small electric plant, burning peat.

Reached Waterville - a town associated with Charlie Chaplin, whose wife was from here.

4 Ogham stones (pronounced "ohm").

Ring fort - Blue Guide, Ireland, p. 281 (pix), seen on drive up and then from the top of Commaketa Pass, Blue Guide, p. 281

Heather in bloom at a stop below the pass.

Cahirdaniel Ring Fort (pix, through the bus window), Blue Guide, p. 281.

Wild thyme, Thymus serpyllum, purple, creeping, opposite, elliptical leaves.

Beara Peninsula, seen across the bay.  
rocky country, mountainous

rhododendron, introduced into England, is often considered a weedy species, at least a couple of the species, with efforts to eradicate them.

snack at Sneem

turned inland some and over mountains.  
cotton grass, Eriophorum angustifolium  
mostly moorlands and fields, not many forests seen.  
reached Moll's Gap.

Black Valley, 90 inches of rainfall a year

Met a flock of sheep coming down the road beside the bus, with shepherds and two sheep dogs working them.

Killarney National Park has 20,000 acres, made of two estates, Bourn-Vincent.

Contains three lakes:

Lower

Middle - or Muckcross Lake

Upper

and Muckcross House, a traditional mansion

Ladies view, from Queen Victoria's ladies-in-waiting, who used to view the scene from here.

nice oaks, the best I have seen.  
rhododendron and pest and weed here.

reached Muckcross area.

The last wolf in Ireland was killed in this area in 1700.

A Kerry arbutus, Arbutus unedo, is celebrated here. Not seen.

Back to Killarney for the night, same hotel.

July 6, Thursday.  
overcast  
reached Tralee.

Rose of Tralee. A noble family woman admired the shoes of a peasant girl, Mary, whose father was the shoemaker. The woman had him make shoes for her family and took the young girl as a servant. But her son fell in love with the shoemaker's daughter. His parents forbade the marriage and arranged another marriage for him and sent him to America. He returned ten years later, noticed a funeral procession, was told it was the shoemaker. He went to the grave to find, alas, Mary's grave already there, and was told she had died of a broken heart. He then wrote this poem at her grave.

Toured Blennerville, and coffin ship museum (but no coffin ships). A replica is being completed.

Also a restored windmill, grain mill.

reached Listowel.

Cemetery here is associated with St. Brendan, the navigator. Brendan is alleged to have made the first trip to America (Greenland, in 6th century).

reached Foynes, and Flying Boat Museum.  
Irish coffee originated here, with a shot of whiskey.  
The museum is in an old airport building.

Commander Read of the U.S. Navy flew the Atlantic, taking 23 days, 53 hours flying time. He flew Newfoundland to Azores, 1,200 nautical miles), then Azores to Lisbon, 800 nautical miles, the Lisbon to Plymouth.

He navigated by a chain of 68 destroyers, with searchlights ever 50 miles, 5 battleships as weather stations. This in May 1919. Only one of three planes succeeded in making the trip.

John Alcock and Arthur Whitten Brown flew June 1919, a Vickers Vought bomber, across the Atlantic and crash landed in a bog near Clifden, County Galway.

Lindberg flew May 1927. And it isn't so clear to me why he gets all the credit and nobody ever heard of these others.

The flying boats were luxury craft, thought to be able to land on any clear stretch of water. At that time there were no big runways. Big cities were near water. People believed, naively, that they could land at sea in an emergency.

They used much fuel on takeoff. They tried in-flight refueling to replace this, but it didn't work well.

The British tried a double stacked plane, a smaller one over the big one, to assist take off. But didn't work well.

Neither method was very safe, or efficient.

Now we fly above the weather, but then they could not. They had to fly into the weather. Icing was especially bad.

Pan Am started building a Boeing B-314 in 1936.

July 5, 1936, two commercial aircraft, one going in each direction, Pan Am's Clipper III, and Imperial Air's Caledonia in the other direction, proved the flight across the Atlantic could be made in such planes.

It was easier to fly the Pacific, though further, there wasn't much weather problem. Landed in Hawaii, Midway, and other places en route. Pan Am flew the Pacific in 1935 in a Vought-Sikorsky V.S. 44.

The first flying boat proper, B-314, across the Atlantic was on July 9, 1939, a luxury flight named the "Yankee Clipper."

They usually re-fueled in Newfoundland, but one went nonstop Foynes to New York in 1942.

Only 12 B-314's were ever built. None survive.

Commercial flights continued with the war, but the same planes were more or less disguised military planes, technically neutral and unarmed as Ireland was neutral. They were full of more or less disguised military passengers.

By the end of the war, land planes had developed enough during the war to outmode the flying boats.

Saw a good video with original footage.

Old radio equipment room here.

Reached Askeaton, with a Franciscan friary, c. 1420 in ruins, also a castle, 1199.

Reached Adare, ruins of Franciscan Friary, 1464, ruins of Desmond Castle, 1328.

reached Patrickswell - with a well where St. Patrick baptized people, now only a hole in a concrete slab, surrounded by construction.

reached Limerick - King John's castle (pix, with arched bridge), 1200 and Treaty Stone, on which the violated treaty of 1691 was signed. [Blue Guide, Ireland](#), p. 290.

1,400 miles, driven on this tour.

reached Bunratty, and end of tour.

July 7, Friday.

I got car at Shannon. We drove to Ennis, then Kilfenora, and visitor center. lunch. Returned to The Burren.

reached Cahermacnaughton Stone Fort, early Christian era. Caher = stone fort.

reached Poulnabrone, a dolmen = "stone table" or "portal tomb." Megalithic tomb, from 3,800 to 3,200 B. C. About 30 people buried here. Quite impressive, especially on this rocky landscape. (various pix) These were once mounds and the rocks held an underground burial area. Now the soil has eroded away, and only the rocks are left.

Animal bones found in Poulnabrone: horse, cow, pine marten, and, most unusually, the wood marten.

limestone "pavement" (as they call it), deep parallel clefts in the rocks (grikes).

Hart's Tongue fern, Phyllitis scolopendrium, with long blade leaves, 12-15" long.

Wild thyme, Thymus praecox, small, pink, opposite leaves.

Reached Gleninsheen, a Megalithic tomb, also quite impressive and less visited. Pix, with hart's tongue fern. Also a famous Gleninsheen gold collar was found by a farmer in a field here, from c. 700 B.C. (not seen).

checked in B&B at Ballyvaughan.

July 8, Saturday.

Rain all day.

We drove to Corcomroe Abbey, from c. 1200. Impressive ruin, bleak in the rain.

Drove to Carran, and, after getting lost several times, to a perfumery, and to Cahercommaun, a stone fort. I walked in, 1 km. in the rain.

Lunch in car.

Drove to Parknabinnla Wedge Tomb, quite impressive. The tomb still has 4 slabs and earth on top (pix).

Orchis maseula

Massive oncoming traffic on the return drive, Ennis to Shannon.

Flight to London, 5.30 p.m.

Night at Ibis Hotel.

July 9, Sunday.

Jane flew home United from Heathrow and I flew home on British Airways from Gatwick.

I flew the Great Circle Route home. Reached 67° North.

There were great views of Iceland, outwash plains, streams meandering and braided silver in the reflected sun. Some mountains, lots of snow. Some farms, green farmland. One town of some size.

Spectacular pack ice, views of Greenland mountains, Baffin Bay, Hudson's Bay. Lots of snow and ice.

Then we flew over northern Manitoba, Winnipeg, and cloudy thereafter to Denver.

Reached Denver and met Jane there.

Long's Peak was great in storm clouds, with a severe electrical storm and lightning to the south, over Clear Creek Canyon. Next day, the morning news reports that, in the thunderstorm we were watching last night coming home on the limo, there were 3,600 lightning strikes in one hour!

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end Scotland-Ireland 2000

## Yellowstone, Absaroka/Beartooths, and Bob Marshalls 2000

July 17, Monday. Left home 7.15 a.m. Stopped in Casper and bought slicker for horseback trip. Bought food in Cody.

12-15 antelope all day. One pelican on small lake near Dave Johnston Power Plant (Douglas area). Quite overcast and foggy, even needed headlights lights on until I got to Chugwater. Monsoon season in Colorado. Good day after that.

Picnic supper at Dead Indian Pass, and whole drive took longer by a couple of hours than I thought. Checked in to cabin at Larimer Ranch about 10.00 p.m.

July 18, Tuesday. Up at 5.30 and out. Seemed quiet, but lo and behold a lone wolf walked right down the hill and by me 25-30 feet away, carrying something in its mouth. Splendid view. I even quit using the binoculars. Grizzled black above, lighter below. Had collar on. Then he walked on down to the river. This was between the horse trailer parking lot and Soda Butte.

Others, later, say there is a den site nearby, uphill, though the pups were moved to a rendezvous site south of the river (see later). Two pups are still there and this is the Alpha Male, still feeding them.

One grizzly bear, seen at much distance from the observation point one mile west of the Ranch.

6.00 p.m. Potluck supper and start of Environmental Ethics in Yellowstone class.

July 19, Wednesday. Class. Walked up to the wolf pens in the afternoon with the class.

July 20, Thursday. Class continues, ends 2.00 p.m.  
Out in the evening. 292 bison in the valley near the Ranch, a big herd.

Two wolf pups, one black, one brown, active in the grass across the river, south side, at a distance. There are 21 pups in the Druid Pack this year, believed to be from three females. An aerial survey today counted 14 and these 2, total 16. These two are still lingering near the rendezvous site. Watched them an hour.

14 elk at a distance  
1 antelope.

July 21, Friday. Up at 4.40 and out at 5.30. Wolf pups in the same spot. At first they were sleeping and later moving around a bit. Two bald eagles, adults nicely seen in trees by the river.

Then I scrambled up the hill, near the enclosure, where Rick McIntyre was watching. Wolf pups could be better seen. Then a grizzly bear, about three years old, came along, stood up on its haunches several times, and passed quite near the pups, now quite alert. One, the brown pup, lunged toward the bear a few feet and seemed to bark (though at this distance we heard no such bark). The bear passed on by. Watched this episode off and on for forty minutes.

Bison were also on the scene, and I had the wolf pups, bison, and the grizzly bear in the scope field

of view at one time.  
8 antelope.

Left the ranch at 10.00 a.m. Met H. Wayne Phillips as I was leaving; he was just starting a wildflower class. Bought his book the next day at Top of the World Store. Stopped in Cooke City, and great drive in the Absaroka's. Lovely day. Reached Island Lake 1.00 p.m. and pitched camp, great site (and these campgrounds stay rather full). First time in new Equidome 9x9 ft tent. Lazy afternoon, cool evening. Coyotes calling.

July 22, Saturday. Hiked Beartooth High Lakes Trail to Beauty Lake, 3 miles. 6 miles roundtrip. Great day, easy hike. Had to ford the outlet of Island Lake into Little Bear Creek.

Yellow columbine, Aquilegia flavescens  
Spruce, Picea engelmannii  
Subalpine fir, Abies lasiocarpa  
Arnica, sp. Arnica latifolia?  
Potentilla, spp.  
American bistort, Polygonum bistortoides  
Elephantella, Pedicularis groenlandica  
Whortleberry, Vaccinium scoparium  
Antennaria, sp.  
Fleabane, Erigeron sp. Daisy fleabane  
Shooting star, Dodecatheon pulchellum  
Anemone sp.  
Mountain blue violet, Viola adunca  
Mertensia lanceolata  
Limber pine, Pinus flexilis  
King's crown, Sedum roseum  
Marsh-marigold, Caltha leptosepala  
Paintbrush, Castilleja sp.  
Parry's lousewort, Pedicularis parryi  
Alpine speedwell, Veronica wormskjoldi  
Parry's clover, Trifolium parryi  
Senecio spp.  
Saxifraga spp.  
Rumex spp.  
Pink mountain heath, Phyllodoce empetriformis  
Mountain laurel, Kalmia microphylla  
Silvery lupine, Lupinus argenteus  
Alpine willowherb, Epilobium alpinum  
Bishop's cap, Mitella breweri, with the pinnate filaree petals.

Lonesome Mountain, 11,409 ft., prominent straight ahead in middle part of the hike. Passed Night Lake and several unnamed lakes, then steep but brief descent to junction and Beauty Lake, 8,901 ft. Lunched there. Return.

A man in camp saw a grizzly (or at least a big brown bear) not far from camp, fishing in one of the streams. Camp host says there has been a bear in camp only once in the last three years.

July 23, Sunday. Lovely day. Drove to Beartooth Lake Campground. Hiked to Beauty Lake, again, but from this direction. Forded creek. Then steady climb for 1 1/2 miles, through lodgepole and

spruce, reached Crane Lake, then terrain flattens out. Soon reached Beauty Lake, and traversed s.w. shore to site of yesterday's picnic, by 11.30. White-crowned sparrow.

Trapper's Labrador tea, Ledum glandulosum

Spring beauty, Claytonia

Yellow Sedum, Lance-leaved stonecrop, Sedum lanceolatum

Picnic at s. end of lake near outlet. Lovely picnic site and good flat rock to sit on.

Return. Surprised a moose at a kettle (and she surprised me), seen on way down, in the brush and woods, as I was seeing what mosses where in the wet area.

Out about 3.30. Got pop and candy at the Top of the World store and then drove up the dirt road that leads to Fantan and Sawtooth Lakes. Sawtooth Mountain is obviously profiled in the distance, so there is a Sawtooth Mountain both here and in Idaho. Stopped at overlook at Chain Lakes and drank the pop.

Studied some good white-bank pine cones. Pix of campsite from this hill with Lonesome Mtn, nearer, and Castle Mtn, further. On tripod. Is it clear?

Supper. Drove to Clay Butte Lookout Tower. Pilot-Index pix, Pilot Mtn. is to the left. On tripod. 80-200 mm. lens. Is it clear?

Marmots

Elk thistle, Cirsium foliosum

Sulphur (yellow) paintbrush, Castilleja sulphurea

Mountain bluebirds

Yarrow, Achillea millefolium. Named for Achilles, who used it to treat the wounds of soldiers in the Trojan War. It stops bleeding and encourages clotting.

White Geranium, Geranium richardsonii

Cow parsnip, Heracleum lanatum

Sticky (Pink) Geranium, Geranium viscosissimum

Common sunflower, Helianthus annuus, facing the rising sun

Alpine forget-me-not, Eritrichium nanum

Supposedly there is forming a Beartooth wolf pack, ranging more to the east of the high plateau, according to campground host.

July 24, Monday.

Something grazing outside the tent at night, probably a deer. When I pulled the tent, there were gopher workings beneath it.

Gray jay.

Drove over Beartooth Pass, 10,947. Lovely day, cloudless sky. Various pix of the Beartooth, 400 mm., with polarizing and haze filter.

Great alpine road, the near equal of Trail Ridge Road.

There is a west summit and an east summit. Descend. Overlook over Rock Creek and Hellroaring Plateau.

Pitched camp at Greenough Lake Campground, 7,200 ft. These are reserved mostly weekends,

but plenty of open space midweek. Lunched in Red Lodge and called home. Afternoon in Red Lodge, browsing stores, and then back to camp, and packed for backpack. Camp is much warmer than Island Lake.

Shrubby cinquefoil, Pentaphylloides floribunda (formerly in Potentilla).

Fireweed, Epilobium angustifolium

Harebells, Campanula rotundifolia

Bearberry, Arctostaphylos uva-ursi

Meadow goldenrod, Solidago canadensis

Common juniper, Juniperus communis

Pyrola chlorantha (probably)

Spiraea betulifolia

Aspen

Northern bedstraw, Galium boreale

July 25, Tuesday. Up and out by 9.00. Lovely day. Drove to Lake Fork Trailhead and set off backpacking. Good trail, the same one I hiked with Walt Gulick and David Strong October 31, 1999. Lake Fork of Rock Creek. Carrying bear gas for the first time backpacking. Gentle climb and lunched a little short of Lost Lake Trail. 12-15 people on the trail, mostly dayhikers only. Reached the bridge over Lake Fork about 2.00, and pitched camp. Good camp site. Good horse bridge here, and Black Canyon Trail leaves from here.

Hiked to September Morn Lake starting at 3.00, reached it about 5.00, and lo and behold from the east shore you can see the Beartooth rather nicely--upper half or one-third of it. Got out the compass and maps, and took bearings to be sure, and it fits perfectly.

Returned, rather slowly, as I was nursing a touchy right toe by now. But my knee and Achilles tendon held up well.

Back about 6.30. Mileage, trailhead to camp, 6. Camp to September Morn, 2, September Morn to camp, 2, total 10 for the day.

Keyser Brown lake, First Rock Lake, Second Rock lake, all seen on the climb to Sept. Morn.

Sporting goods store owner says you can see the Beartooth by hiking out onto the flats s.e. of Mt. Rearguard, but it won't be above skyline. There doesn't seem to be anywhere easy to get up close with a good view.

Also prominent on the climb to Sept. Morn was Sky Pilot Mountain. Some lovely scenery in here. Another spire or two at the head of Lake Creek Canyon.

Alpine clover, Trifolium dasyphyllum

July 26, Wednesday. Hiked, scrambled to Black Canyon, only 1 1/2 miles or maybe 2, with the twists and turns, but it took me all morning, 9-12. Lower part with many blowdowns, more or less awkward to negotiate, and upper part crossing a moraine of huge boulders. Lots of false trails, and I took one up the boulder field without crossing the creek, which proved a mistake. Eventually I got there with all the climbing I wanted. Originally I had thought maybe I could make my way along the n.w. shore past the point of Thunder Mountain and get a close-up view of the Beartooth. But it would take some heroics to do that. The s.w. side of the lake is an almost vertical cliff, with a talus of boulders as big as an elephant. The n.w. side of the lake is at a nearly 45° angle. I met a trio

of backpackers who seemed to have been to the upper end of the lake. Saw nobody else. Going up I could see the upper part of the Beartooth sticking up beyond the flat part of Thunder Mountain.

Lovely lake in a tough and rugged setting. There seems no outlet, but water filters out through the huge boulders that form a dam, and a creek picks up a half mile below.

Marmots heard.

Pikas heard and seen.

Wood nymph, Pyrola uniflora

Green Flowered wintergreen, Pyrola chlorantha, with several blossoms

Swamp gooseberry, Ribes lacustre

Brook saxifrage, Saxifraga odontoloma

Parnassia, Parnassia fimbriata

Made it back about 3.00 and took a long nap!

squirrel in camp

Prowled the wetlands above camp after supper. Bear scat on the trip above the bridge, after supper. No fur, and lots of vegetable matter.

Excellent campsite

White bog orchid, Habenaria dilatata

Bog Swertia, Swertia perennis, purple, 5 stamens and 5 narrow sepals displayed alternately, opposite leaves

Sphagnum moss

Explorer's Gentian, Gentiana calycosa, blue with a lovely twist to the as yet unfolded petals. Opposite leaves.

Willows much nipped back by moose.

Alder, spp.

Big huckleberry, Vaccinium membranaceum, twice as high as Bilberry. Similar is Globe huckleberry, V. globulare.

July 27, Thursday. Up and out by 9.30. Sunny day. Whitetail Peak is prominent from the bridge, with a vertical whitetail of snow right down from the peak.

Death camas, Zygadenus elegans

Met a rider, two mules, then two forest service hikers, going to do "shot work" and blast out the big blowdown mess above Keyser Brown Lake.

Bullmoose that killed the hiker last fall gored him through the eye and injured his brain. He still had his hands in his pants. The moose was probably in rut.

Arnica with good heart-shaped basal leaves and ovate stem leaves without petiole.

Passed good avalanche site.

You come in apprehensive, not knowing the country, but you come out relaxed, acquainted with it.

Pink campion, Lychnis

blackberry

Pink Pyrola, Pyrola asarifolia

Out at 1.30. Kept looking for a bull moose others had seen toward the trailhead, but I never saw it.

10 + 4 + 6 = 20 miles hiking.

Checked into motel in Red Lodge and did wash and shower. First shower in six days.

Then drove back up to Beartooth Lookout near the Pass and ate supper there.

Quite mystical looking toward sunset across the valley toward the Beartooth.

Four mountain goats out grazing on the plateau on my return. Great in the evening sun. Watched them some time.

Mule deer. Another mule deer.

July 28, Friday.

Left 7.15, drove to Columbus on Route 78, then I-90 to Livingston.

6 mule deer

Sandhill crane

mule deer

golden eagle

deer, unidentified

"Absaroka" is the Crow Indian (related to the Sioux) name for themselves, but it is a raven, not a crow.

Battle Ridge Pass, 15 antelope, 1 antelope, 6 antelope.

Stopped in Livingston and bought jersey, and then on to Bozeman, lunching in car at Bozeman Pass. Bought books, lens cases, tripod head for car mount. Great buys in a used camera store here--Bozeman Camera Repair.

There are major forest fires in the Canyon Ferry Lake area, where I thought I might camp, so I went up Routes 86 and 89, really a better route.

Bridger Mountains prominent on the left. Some great peaks in here (Gallatin National Forest). Then through flats, sagebrush, and ranch country and into Lewis and Clark National Forest. Stopped in White Sulphur Springs at Ranger station. There is a hot springs here, a spa, now enclosed by a motel.

On to King's Hill Campground, at King's Hill Pass. Very decent campground.

Quiet night. Used small tent, didn't even bother to put up the fly.

July 29. Saturday. Off at 8.30. Marmot. Roadkilled striped skunk.

Reached Great Falls 10.30 a.m. There are six falls on the Missouri in this area, the lowest one is Great Falls. Lewis and Clark portaged here in 1805/1806. Lewis and Clark travelled 8,000 miles. Lewis discovered the falls (for the Europeans!), June 13, 1805, and wrote of "this sublimely grand spectacle," until then unsure whether the present-day Missouri or the present Marias was the main stem. Hydro-plant built here in 1915. The natural falls is 80 feet high. Now only a trickle flows over the falls; most of it goes through the hydro-plant.

The Missouri flows through Grand Falls, and then turns south, flows east of Helena, and then down to Three Forks, where it is formed by three rivers, named by Lewis and Clark: (1) the Jefferson, (2) the Madison (for the presidents), and (3) the Gallatin. The Gallatin drains part of Yellowstone National Park.

Golden Triangle. Name of an area of Montana, a triangle formed by Havre, Great Falls, and Cut Bank. A good grain growing triangle, wheat and malt barley. But it is spring wheat, not winter wheat.

Went to the C. M. Russell Museum. Russell, cowboy artist (1864-1926) came to Montana in 1880, was a cowboy, then became full time artist. His studio, a log cabin, and home are here. Lots of his paintings and sketches, often illustrating letters he sent to friends. Unusual portrayals of the native Americans, and of the then-fading West.

Lunched at the Great Falls, some 10-12 miles out of town, in a still rather desert like area. There is a public recreation park on an island just below the falls.

Drove on to Choteau (pronounced Show-toe). Passed Freezeout Lake. 15 white pelicans on a small lake not far from Choteau.

Reached 7 Lazy P Ranch. Night at the ranch. There is an upper ranch (where we left the next day), originally owned by Chuck Blixrud, and a lower ranch, more recently bought by Blixrud and more elegant and plush. Pine siskins. Goldfinches. Cassian's finch at the feeders. Hummingbirds.

horn = pommel. Once made of deer horn.  
pommel is often associated with an English saddle.

July 30. Sunday

Trip leaders:

Dave Hovde (pronounced hove dee)  
Festus Elwood -- though see later, his mother died.  
Brian McCabe  
Linda Hanson, cook

There are only four riders on the trip:

Laura Wilfer - mother  
1010 N. Fernmeadow Dr.  
Appleton, WI 54915  
wilfer@execpc.com

Rosanne Wilfer - daughter. Worked in Yellow Pages.  
918 Palm Bay Dr.  
Ballwin, MO 63021  
REWilfer@PUB.MCLeodUSA.com

Patsy O'Malley - born in Montana, daughter of a forester, now lives in Florida, has been on 5-6 trips before, the earlier ones with her husband, now dead.

Plus myself.

Breakfast at the lower ranch, then drove Jeep up to upper ranch and parked it there. This is the Middle Fork Teton Trailhead.

Riding:

Lean forward when going up the hill. Try to keep your body straight up and down.

Lean back going down and keep weight on feet. Going down is more crucial.

Ride down like a bicycle, rocking from side to side as the horses front legs work back and forth, up and down.

Don't let the horses trot on bridges.

Lean forward in wet areas, in case they jump.

We set off about 10.00 a.m. Horse is named Blaze, a male.

Rode up Middle Fork of Teton River, and over Route Creek Pass, a good pass, above timberline, and then down the west side, which is Route Creek. Passed Nesbit Creek trail turnoff.

Balsam poplar, Populus balsamifera

Aspen, Populus tremuloides

Thimbleberry, Rubus parviflora

Gaillardia aristata

Buffaloberry, Sherperdia canadensis, lots of it, with lots of berries

Rocky Mtn. juniper, Juniperus communis

Bergamot, Monarda fistulosa

Rocky Mtn. maple, Acer glabrum

Paintbrush, Castilleja spp.

Kinnikinnick, Arctostaphylos uva-ursi

Spiraea, Spiraea betulifolia

Rose, Rosa, spp.

Fireweed, Epilobium angustifolium

Shrubby cinquefoil, Pentaphylloides floribunda

American thorough-wax, Bupleurum americanum, a yellow umbellifer with long, single, entire leaves.

Harebell, Campanula rotundifolia

Ceonothus, Ceonothus velutinus

Daisy fleabane, Erigeron speciosus

Vetch, Vicia sp.

Dogbane, Apocynum androsaemifolium

White geranium, Geranium richardsonii

Sticky geranium, G. viscosissimum

Gooseberry, Ribes lacustre

Goldenrod, Solidago sp.

Wild red raspberry, Rubus idaeus

Yarrow, Achillea millefolium

Blue elder, Sambucus cerulea (= glauca)

Alder, Alnus sp.

Sweet cicely, Osmorhiza berteroi (= chilensis)

Goat's beard, Tragopogon dubius

Buckwheat, Eriogonum umbellatum

Elk thistle, Cirsium scariosum

Sedum, stonecrop, Sedum lanceolatum  
Brook saxifrage, Saxifraga odontoloma  
Death camas, Zygadenus elegans  
Yellow columbine, Aquilegia flavescens  
Parnassia fimbriata  
Explorer's Gentian, Gentiana calycosa  
Silver Lupine, Lupinus argenteus  
Yellow monkey flower, Mimulus guttatus  
Yellow Mtn. Avens, Dryas dummondii, yellowish, feathery bristles  
Meadow rue, Thalictrum occidentale  
Whortleberry, Vaccinium scoparium  
Scouring-Rush, Equisetum hyemale  
Bracted Lousewort, Pedicularis bracteosa  
Wild lily of the valley, Smilacina stellata  
Pinedrops, Pterospora andromedea

Heavy smoke over a ridge. Forest fire prevented us from reaching our intended camp in the area of Wrong Creek. So we turned around at Ten Mile Park, and backtracked to Nine Mile Park. Ride about 11 miles.

We had only one wrangler on this trip in, Festus, as Brian is joining us tomorrow. Chris (former wrangler), rode one horse in, leading another, then rode out, switching horses. So his ride was about 22 miles for the day.

Good campsite, nearby is the tail end of an avalanche chute.

July 31, Monday. Up at 6.15 for 7.00 a.m., breakfast.

They use a big wood stove rig, no propane.

Smoke is rolling up the valley and in the camp area is a strong smell of smoke. We will have to ride out Nesbit Creek and over to the West Fork of the Teton trailhead (which is a roadhead, and find out what is going on). This took us over a wooded pass (leaving the Bob), dropping into Olney Creek, then joining the West Fork of the Teton, then to the West Fork trailhead, where they had a corral.

Bear grass, Xerophyllum tenax, past bloom. But lots of it.  
Mariposa lily, Calochortus gunnisonii  
False Hellebore, Veratrum viride, with large plaited leaves. Common.  
Mtn. ash, Sorbus  
Valerian, Valeriana dioica ?  
One-sided Pyrola, Pyrola (=Moneses) uniflora  
Alpine willow-herb. Epilobium anagallidifolium  
Parrot's beak, Pedicularis racemosa  
Speckled horsehair (lichen), Bryoria fuscescens  
Wolf lichen, Lethoria vulpina (seen often in the River of No Return trip with Bob Sevy last year)  
Twinflower, Linnaea borealis, found at lunch.  
Twinning honeysuckle, Lonicera dioica, red berries at the end of the stem  
Bracted honeysuckle, Lonicera involucrata, with red or purple recurved bracts.

August 1, Tuesday.

Word received that Festus' mother has died. So he leaves us and Brian McCabe and Dave Hovde will be the only leaders. Plus Linda, the cook.

Cloudless sky.

Field timothy, Phleum praetense

Layover day, with some sense of wasting time, and worry that the trip will fail to make the Chinese Wall, and modify into a less interesting trip to the northeast.

Went back down to the 7 Lazy P, upper ranch, and took shower, lunch, lazed around. Mostly a dead day.

Back at 4.00 p.m., and the forest fire is blazing up, smoke high in the sky. The Forest Service has closed all the trails south of Sun River Pass. Looks bad for the rest of the trip.

Serviceberry, Amelanchier alnifolia, at 7 Lazy P Ranch.

Red osier dogwood, Cornus stolonifera

Onion, Allium sp.

August 2, Wednesday

Rode over Teton Pass. Lunch a little short of the pass. Lots of beargrass, past bloom.

Bog orchid, Habenaria dilatata

Pearly Everlasting, Anaphalis margaritacea

A big burn, the Bowl Mountain Burn, 1998, starts at the pass and continues three miles or so. Rather spectacular, lots of Arnica and Fireweed/Epilobium in the burned area. No shrubs. Trees all dead.

Rode down Bowl Creek and picked up Basin Creek. Rode in where they have a sometime hunting camp. One good coyote track (or was it the dog?) Brian has a dog.

New moon. Barred owl heard in the night. Who cooks for you-all.

Northern bedstraw, Galium boreale

Strawberries at the tent. Fragaria virginiana

Ride today 14 miles, a long ride.

August 3, Thursday. Layover day. Hiked up the mountain to see what we could of the fires. Cool in the morning.

Olive-sided flycatcher, persistently calling in the morning

Small-flowered crowfoot, Ranunculus abortivus

Bunchberry, Cornus canadensis

Pipsissewa, Chimaphila umbellata

Big birch, Betula glandulosa

Hiked up the mountain over camp, and got a striking view of the fire area. Typically 6-8 good smoke plumes rising high, sometimes white and sometimes black, and surprisingly coming and going, an



ever changing scene. Six or eight times (with binoculars) we could see good flames, orange and the bottom of the smoke, flaring up. But in 3-4 seconds, the flames would disappear, as though the tree had been suddenly engulfed, almost exploded in fire. The highest flames were perhaps 4-5 times as high as the trees, spectacular. Watched this a couple hours. I am sorry not to make it to the Chinese Wall, but not every visitor watches several square miles of the Bob burn. An ageless mountain, and yet a tree perishes in seconds.

There was a good display of old burn patterns, now regenerated in the forests across the way between us and the fire.

Selaginella spp.

One has some sympathy with Ronald Reagan--not with his "When you have seen one redwood, you have seen them all." But when you have seen one lodgepole, you have seen them all.

August 4, Friday.

Lots of rain in the night and rainy morning. Packed up in the rain. Rode down Basin Creek into Bowl Creek.

Lightning badly frightened the horses, or, more accurately, the thunder after the lightning. Several of us had a time reining them in.

Morning break in Grizzly Park. Passed Strawberry Creek trail.

Bowl Creek and Strawberry Creek join to make the Middle Fork of the Flathead (locally called the "Big River").

There was sunshine though it remained quite misty, or smoky, from lunch on. Lunch at Gooseberry Park. Cabin here. Gooseberry Park Cabin.

Lycopodium annotinum, a good stand

Cornus canadensis, much more of it, good stand

False-azalea, Menziesia ferruginea. Azalea like heath, leaves branch similarly to Azalea, in a sort of whorl. (But why call it false anything?)

Lots of it.

Bear track. Seen from the horse, as pointed out by Dave Hovde, but we could not examine it closely. Probably a black bear track.

Lots of Twinflower, Linnaea borealis.

Rode up Clack Creek, 2 miles. Camp in open park. Ride today 10 miles. Total so far 44 miles.

Minuartia (Arenaria) spp.

Pentagon Peak nicely seen on the skyline.

Columbian ground squirrel, a big ground squirrel at lunch.

2 mule deer in camp after supper

August 5, Saturday.

Cold but clear. Up at 6.00 a.m., breakfast at 7.00. Sun in camp after 7.30. Frosty breath.  
hairy woodpecker, maybe a sapsucker  
siskins, immature pine siskins

Mule deer in camp  
A few small snowfields on the horizon  
Water-hemlock, Circuta douglasii?  
Cottonwoods, Lanceleaf cottonwood, Populus acuminata

Trilobite Mountain. Nicely seen at Gooseberry Park Cabin.  
Senecio spp.  
Rosa spp.  
We have been on and off the Continental Divide Trail.  
Oregon grape, Mahonia repens

Spruce grouse. 4-5 flushed from the ground and then seen in a pine tree, not far off the trail. Dave says hunters kill them with rocks, to save a bullet. This is mostly a Canadian grouse. Birds of the Northern Rockies in the U.S. are often called Franklin's grouse.

Lunch near where Strawberry Creek separates off from Gateway Gorge.

Twisted stalk, Streptopus amplexifolius  
Baneberry, Actaea rubra  
Mountain boxwood, Pachistima myrsinites, a boxwood like heath  
Golden eagle soaring

Spectacular ride up Gateway Gorge.  
Afternoon break at Sabido Cabin

Above the cabin, beargrass flourishing in an insect killed forest. Must have been 500,000 plants, maybe millions of them.

Camped in Big River Meadows. Big River is, recall, the local name for the Middle Fork of the Flathead, and that seems to be over the divide from the East, the first meadows to which early pioneers/settlers would have come in the Big River drainage--here, coming over Gateway Pass.

Columbian ground squirrel, several of them, in the meadow.

Mule deer in camp. After supper the deer was 15 feet from my tent, eating the soil where I had urinated, hungry for the salt. It did this repeatedly.

2 eagles in the sky at supper

11 mile ride.

August 6, Sunday.

Clear day, cold in the morning.

Rode on long day ride, back down to Sabido Cabin, then up trail (# 371) that goes over to East Fork of Strawberry Creek, leaving that trail at a saddle, and riding out on a pickup trail on a ridge that ends as the n.w. side of Gateway Gorge. Lunch on top. Quite a good ride. Great view from the top. You could see mountains in Glacier National Park on the distant skyline to the north.

Some quartz crystals found here, washed out, mostly, in the dirt, eroded out from the siltstone (or whatever) country rock.

Trail was so steep we walked the horses back down.

7 mile ride

Total so far, 62 miles

Mtn. avens, Dryas octapetala

Cushion Buckwheat, Eriogonum ovalifolium, with silky hairy leaves, a cushion, back in camp.

Mule deer in camp again.

August 7, Monday.

Breakfast at 7.00, not as cold as yesterday. Off at 9.30.

They put down (unroll) a wire fence, to keep the horses from travelling. So we stopped to roll up the fence, put down two days back. This becomes more important when the horses are nearing home.

Red-tailed hawk

Rode over Gateway Pass (6,475 ft.), wooded, the Continental Divide

Rode down S. Fork Birch Creek.

Spectacular ride, especially after crossing Gateway Pass, open slopes, once forested, apparently insect kill or winter kill long ago. Now subalpine country.

Continued the descent.

Pileated woodpecker, heard calling (probably).

Falls of S. Fork Birch Creek (pix)

Lots of dead trees. Why?

Reached a junction and turned, and climbed back up Crazy Creek to a spectacular pass.

Lunch below the pass.

Yellow monkey-flower, Mimulus guttatus, a lot of it in the brook below the lunch site.

Bees frightened the horses several times in here.

Slow regeneration of the forests on these slopes.

Clematis, Clematis spp.

Snow buttercup, Ranunculus adoneus (= eschschotzii)

Forget-me-not, Myosotis asiatica (= M. alpestris)

Snow willow, Salix reticulata

Alium brevistylum, perhaps. Another onion, erect, pink flowers

Rode over the pass at the head of Crazy Creek.

Then we rode around a cirque drained by Nanny Creek (maybe a mile ride), then over another ridge, the highest point on the trip (maybe 7,200 ft), and dropped into Bruce Creek.

Mt. Patrick Gass is prominent here. He kept a journal with the Lewis and Clark expedition, which has been published.

There is a plane crash on the side of Corrugate Ridge.

Corrugate Ridge commands the whole western flank.



Camped at the head of Bruce Creek.

Pink monkey flower, Mimulus lewisii, lots of it, at a spring (with spout we put in it) at the camp. Dave cooked steaks for supper. They have kept fresh meat the whole trip; had it frozen at the start. Baked potatoes.

Ridge today 10 miles. Total so far 72 miles.

August 8, Tuesday.

Ride out. Ride today 8 1/2 miles. total for trip 80 1/2 miles.

3 mule deer, at least one a good buck, halfway up Corrugate Ridge.

Rode down Bruce Creek to Teton River, lunched there.

Then out to West Fork trailhead. Rather pretty ride out, some good forests below.

No larch, no Ponderosa seen on this trip, unlike others.

My horse, Blaze, was as good a horse as I recall riding.

Out at 2.00.

The fire danger is so high that the next trip in (supposed to start Friday) will be restricted to a "cold camp" -- no fires of any kind, not even in stoves.

Off from 7 Lazy P at 3.30, thinking maybe to make it to Billings. But, alas, car trouble in Great Falls. Bad alternator. So spent the night there.

4 deer, including one spotted fawn.

Montana fires made PBS International News for its forest fires. Many areas evacuated. This was the second feature story after a Moscow bombing, from a broadcast originating in London.

August 9, Wednesday.

Got the alternator fixed without too much trouble. Left Great Falls, 10.30 a.m.

Montana fires are the second feature story on CNN News. The governor has "locked down" the forests to reduce fire hazard. No use for recreation or by commerce; only forest professionals allowed in the forests. 100 homes destroyed. 1,000 homes evacuated. 20 major fires, burning 224,000 acres.

President Clinton flew to Idaho to encourage fire fighters.

20,000 civilian and military fire fighters have contained 60 fires. More acres have burned than in Yellowstone in 1988.

Over time, no fire is as bad as no rain, only the scale is different.

Smoky in Montana all day, worse in the southern half. On long stretches you couldn't see the end of the road.

Golden eagle

Hard drive, got home about 10.30 p.m.

Good trip, though disappointed not to make the North Chinese Wall.

end, Yellowstone, Beartooth-Absaroka, and Bob Marshalls trip.

Sept. 8, 2000. Drove up to Estes Park and RMNP, for the Scottish Festival, then into the park for a picnic and to hear the elk. With Jane and Alex. 40-50 elk at the head of Horseshoe Park, in the rain, and some very decent bugling. Mostly cows and three or four bulls courting them. One bull with majestic antlers and well seen, as he was cavorting about the females. Also saw, as well as heard, him bugle, not that far away. Rainy picnic in the car nearby.

Sept. 23, 00. Saturday. 13-13 inches of snow in Ft. Collins over evening and night. I was in flight to Portland, went down to Denver in rain about midday, which continued that afternoon and in the evening turned to snow. Jane called me Sunday morning to report it. When I flew over what I suppose was Wyoming or southern Idaho, I was flabbergasted how much snow I could see in breaks in the clouds. Same snowstorm had blanketed the country there and was en route to Ft. Collins.

Sept. 24, 00. Sunday. Trip up Columbia River Gorge, outside Portland. I was on speaking engagement at University of Portland. With Tom Hosinski, Theology, and Russ Butkus (Russell A. Butkus), Theology. Visited Latourell Falls, Wakeena Falls, Multnomah Falls, Oneonta Gorge, and then Bonneville Dam. Falls all nice plumes over the gorge wall, though at low water this time of year. Bald eagle seen at Bonneville soaring, good adult.

Sept. 30, 00. Saturday. Rocky Mountain National Park, with Bill and Augusta Forbes, and Jane. Great day. Drove up Trail Ridge Road. Cloudy bright, some sun. Not as much snow above treeline as I might have expected given the big snow in town last week. Had picnic at the picnic ground a little past the Continental Divide. Cold but tolerable picnic. Drove back down and watched elk in Moraine Park, nice show, good bugling. Then drove around to Moraine Park, with huge crowd there, and elk but a little far off in the meadow.

Then drove up Fall River road, now towards twilight, various elk, and then, a quarter mile past the Lawn Lake washout, saw the best bull elk fight I have ever seen, and not that far off. Great in binoculars. One big bull had a harem, and was nervously guarding them. Several other bugle sounds coming from nearby woods. Then one bull came out, and there was a sort of standoff for ten minutes, with them strutting this way and that. Then they crashed, and antlers joined, and they went at it for ten minutes. Nicely visible at first, then in some grasses for a while, then spilled out on a sandbar, then back in the bushes. Generally one could push the other backwards, gradually. As near as we could tell it was the challenger bull who was the winner, and the bull that originally had the harem walked off. Third bull came out of the woods to watch it all. Augusta got this on her camcorder, and I made a copy of it, on VCR Nature # 16, the second episode on the tape, right after the recording about bears coming into towns, because they are hungry.

258 elk seen during the day total, about 8 mule deer. Maybe eight good bulls with harems, typically 10-13 cows, and various spike bulls and 10-12 bulls without harems.

October 1, Sunday. Zimmerman Lake, with Bill Forbes. Good day, good hike, but uneventful. The loop trail, marked as you near the lake, is really just a ski loop, not really a hiking trail. We went up to the lake, walked around it, lunched on the far side. Completed walking around the lake, then started the return. Then picked up loop trail and did that back to the lake. You have to follow blue diamonds, marked for skiers; often there is not trail, and the route cuts across what would be the right way to go in winter, not always the easiest way in summer, because it may be across marshy areas.

continued, next page: Brazil, Campo Grande & Pantanal

## Brazil, Campo Grande & Pantanal

Nov. 4, 00. Saturday. I was supposed to leave Denver, 12.35 p.m., but steady snowfall, and the plane stayed on the runway 3 hours waiting to be de-iced. Hence late to Miami, and, after confusion, I spent the night in Miami International Airport there. Decent room at United's expense.

Nov. 5, 00. Sunday. Killed the next day, wondering if I would fly out on the same flights this evening, put on standby, and eventually did. Left 7.30 p.m. on a VARIG flight.

Nov. 6, Monday. Arrived Sao Paulo 6.15 a.m., and spent some time rescuing my suitcase, which had gone on a later plane the night of Nov. 4. Flight to Campo Grande, and was met there. Hotel NOVOTEL, Avenida Mato Grosso, 5555, Campo Grande Brazil. Phone 55 67 726 1177. Fax 55 67 726 6633. E-mail novotel@nutecnet.com.br.

Nov. 6-9, 00. Attended II Congresso Brasileiro de Unidades de Conservacao (Second Brazilian Congress on Conservation Areas). About 800 attending. Spoke on Thursday, Nov. 9, to about 700 on "Intrinsic Values in Nature."

Main host: Miguel Milano, who had been to CSU to study.

Nov. 10, 00. Friday. 6-seater airplane to Fazenda Rio Negro. With Michael Soulé, Wildlands Project, John Terborgh, Center for Tropical Conservation, Duke University, and Jim Barborak, Wildlife Conservation Society. Main guide is: Reinaldo F. F. Lourival (the R is pronounced H, like Huh-naldo) He has an M.A. from Texas A and M, and has been here 6-8 years, the point man for Conservation International in the Pantanal. Hopes to do his Ph.D. in the U.S. The ranch is operated by Conservation International. About an hour trip, flew over the city, and the across ranchland, then crossed two mountain ranges, then reached the Pantanal proper. Crossed Rio Negro, then a patchwork of forests and lagoons, wetlands, often rather circular.

Jabiru storks and wood storks seen from plane. On landing, capybara at the edge of the airstrip.

Nice set up; we were in an outer building, each of the three of us in a separate room, with 6-8 bunks. (On Fazenda Rio Negro, see [Pantanal Guide](#), p. 47.) Fazenda Rio Negro, R. Eduardo S. Pereira, 1550, Sala 16, V. Rosa, Campo Grande, MS 79020-170. Phone/Fax 55 67 751-5191. E-mail rionegro@conservation.org.br

Field flicker  
buff-necked ibis  
monk paraquet  
wood stork  
rufous hornero. and long, hanging nests

2 rheas in distance, ostrich like bird Pronounced rhee uh  
2 capybara

Shortly, off for boat ride

4 capybara - across from boat dock

spectacled caiman - 3-4 right at boat dock

large billed tern

neotropical cormorant

large billed tern, large flock of them, flying and on sandbar (pix)

muscovy duck

flock of jabiru storks - maybe two dozen

osprey

capybara and caiman - perhaps 10 capybara and two dozen caiman seen in the river.

pieb lapwing

white-necked whistling ducks

boat-tailed grackle

anhinga

pieb lapwing

black skimmer, big colony, with lots of chicks on the sandy shore/beach

wood stork - flock of a dozen

fasciated tiger heron

white tipped dove

rufous hornero

turkey vulture

white necked heron. About like the great blue heron. Several of these seen.

returned to ranch

flamboyant trees, Delonix regia = Poinciana regia. Also called royal poinciana. Prominent trees in the ranch yard in red flower. From Madagascar. (pix)

lunch

Afternoon field trip, in a four-wheel drive.

limpkin

southern screamer

grey ibis

4 rheas

wattled jacanas

purple jay

black collared hawk

neotropic cormorants - several perched, each on a post in the water (pix)

black collared hawk - nicely seen on post

piping-guan, turkey like bird

bare-faced curassow, genus Cru

Toco toucan

yellow headed caracara

scale dove

great kiskadee (a flycatcher)

great white egret

jabiru stork, with white wings extended, nice

red brocket deer. Mazama americana. Small with 2 spikes, seen in bush, but not far away and nicely seen. Horns do not branch. Good swimmer. Shy and rarely seen.

Red-footed tortoise, Geochelone carbonaria. Good-sized; they picked it up.

Reached a saline lake

12-15 roseate spoonbills  
black necked stilt

took a break, drank pop, on far end of saline lake

roseate spoonbills, nicely seen, continuing the drive around the lake  
limpkin  
black ibis

hyacinth macaw, beautifully seen, perched in dead tree. This is a rather rare bird. Hyacinthine macaw, the largest parrot in the world. Endangered, no more than 3,000 remain.

white-lipped peccary. Others glimpsed two in the bush. I did not see them.

curved billed ani  
crested caracara

Cougar tracks in sand (pix). Jaguar tracks are much bigger.

Collared peccary (= javelina), two seen in road. Pecari tajacu. Found from Arizona and Texas to Argentina. Speed, agility, and group defense of peccaries makes them more than a match for coyotes, dogs, and even bobcats. They often clash their canine teeth together as a warning. Keen sense of smell, but poor vision and fair hearing. Peccaries are not dirty, but quite clean animals. Grub for food with their snouts.

crab-eating fox (Cerdocyon thous). Not genus Vulpes. Seen first in road, then in bush, reasonably well seen. Distinct genus with single species.

8-10 capybara  
nice sunset (pix)

2 hyacinth macaws, with the moon in background. Splendid.

return to ranch.  
Dusk outside the lodge where we were staying  
capybara  
nighthawk. Nacunda. Podager nacunda

Dinner and to bed.  
Saturday, Nov. 11, 00. Up at daybreak, and out on walk.

Ringed kingfisher  
black bellied whistling duck  
cacique (pronounced ku see kuk)  
tropical kingbird  
whistling heron, well seen Syringma sibilatrix

road-side hawk  
Amazon kingfisher  
red headed cardinals (Paroaria dominicana)

rode back in jeep, to breakfast

boat ride  
owlet, great horned owl, in tree near boat dock

chacalaca (Chaco chacalaca)  
rufescent tiger heron  
anhinga  
red-headed cardinal  
great egret  
snowy egret  
great necked wood rail  
sun grebe

2 tapirs in the water. Saw them first at distance upriver, and then went in close, (harassing them, I must say), and saw them up close (pix).  
3rd tapir

Tapirus terrestris. South American, or Brazilian tapir. There are three species in South and Central America, and one in southeast Asia. Family Tapiridae. They are ungulates, but Order: Perissodactyla (horses, rhinoceros, tapirs), odd-toed, one toe oversized and not Order: Artiodactyla, even-toed, two principal digits nearly equal in size. Tapirs most resemble rhinoceros. Occur only in South and Central America and southeast Asia, an unusual disjunction. Short, moveable proboscis, and a rounded body profile which tapers from the back toward front and rear ends, suitable for moving in brush. Eyes small and flush with side of head. The most primitive living perissodactyls. Mostly nocturnal, retiring. Inhabit densely vegetated tropical forests, swamps, savannahs, usually near water. Eat foliage, twigs, green shoots of aquatic and terrestrial plants. Forefoot has four digits, hind foot has three.

Beached, and the others took a swim.

capped heron  
tapir tracks  
cougar tracks

back in boat  
back to ranch.

Lunch.

Flew back to Campo Grande about mid-day.



No termite mounds seen. Water drowns them out in the area we were in.  
No howler monkeys heard.  
Coranda palms, Pantanal Guide p. 45

spent afternoon with Soulé and Terborgh.

Ravazzani, Carlos, Filho, Hilario Wiederkehr, Fagnani, José Paulo, and Da Costa, Siltan, Pantanal: Brazilian Wildlife. Curitiba: Edibran--Editora Brasil Naturesa Ltda, 1991. ISBN 85-85348-02-X, in English. Another edition is in Portuguese. Later, got on ILL, from Harvard Widener. Excellent photos, especially of birds.

Nov 12, 00, Sunday.

Day at leisure in the motel. Flew out Sunday evening. They had canceled my ticket, since I had missed the flight in as originally planned. But they put me on the plane anyway. To Sao Paulo, then a flight about 11.30 p.m. to Chicago. Arrived Chicago, 5.00 a.m.

Nov. 13, 00. Monday. Flight from Chicago home.

end Brazil trip

Nov. 22, 00. Rocky Mountain National Park with Clare and Antoinette Smiley. Maybe 200 elk. Lovely day, picnic in Moraine Park, upper end.

Dec. 18, 00. Lady Moon = Molly Lake Trail from Red Feather Lakes area, with Phil Cafaro. Left 7.30 a.m., good weather, but windy, cold. Tried to go up Deadman Road, but it was closed about 3 miles west of Red Feather, road thoroughly snowpacked by here. Nice adult bald eagle in the sky going up, with another one, obviously an eagle with it, but it looked like a golden eagle, though one wouldn't expect the two together.

Returned to Red Feather and found Lady Moon Trail, now called Molly Lake. Molly Lake is on the map, towards the west end of the trail. But we got confused a bit about the trail, since the trailhead proper has been changed and is now opposite the Mount Margaret Trail. Found it, and hiked half a day. There are signs as needed, including a sign for a Scout Trail which connects down on the Manhattan Road. Snow underfoot most of the time and windy. Climbed to the high point and turned back when the trail began to descend the other side. Lunched in good sun in leaside shelter of big boulders. Out about 3.30. Little evidence of anything but tracks of squirrels, rabbits, and coyotes. Maybe ten deer here and there roadside going and coming.

Most of the fall I was only running 1 1/2 miles, due to sore Achilles tendon, if I tried the 3 mile run. Saw Sally Knauer in mid-November and have been on a physical therapy program, stretching, Thera bands, and balance board. Lately I have been able to run 3 miles, maybe four times, without getting sore. Tho the heel still locks up when kept in one place for long, and I still have to put heel first and rock over coming down stairs. Anyway, I can still move.

end 2000. It was a very good year.

## Trail Log 2001

Monday, Jan. 22, 01. Snowshoed to Dream Lake and toward Emerald Lake. Or, more accurately "snow-walked," as I carried my snowshoes most of the way, and hiked on crusty, packed snow. Cloudy day, but air quite clear. Driving down toward Loveland, Pike's Peak was as clear in the distance as I even remember it. Three bighorn ewes at the entrance to the canyon, in sight of the siphon. Then two more about a mile up the canyon, high up in inaccessible cliffs.

Reached Bear Lake and hiked to Nymph, then Dream, lunched there (with gray jays and even a squirrel begging). Then tried onward toward Emerald, but fewer people considerably had pressed any further and the trail get steeper, steeper drifts, and you even lose the trail. But I got to where I could see where the lake was, maybe halfway there, and turned round.

Twenty elk in Beaver Meadows, then drove over Deer Ridge and down into Horseshoe Park. 80-100 cows out in Moraine Park, and three big bulls off to one side, but nice in scope. Nice racks but they looked poor, thin. One nice mule deer buck back toward town.

February 8, 01. Flock of robins in the yard in a lovely overnight snow.

February 11, 01. Ptarmigan at Guanella Pass. Led by Scott Bailey, ACNS, and with Phil and Kris Cafaro. Left 8.00 a.m. and drove to Denver in considerable fog. Improved going west on I-70. 8 bighorns seen from interstate, ewes as far as I could see. Went to Silver Plume and found a dozen rosy finches with considerable discussion about just which ones they were, presumably gray capped mostly. Two more bighorns, ewes.

Then up Guanella Pass road, in better shape than I supposed. They plow it through and over to Grant, though it is often closed in storms. Snowpacked. Reached the summit, and set off on snowshoes for the ptarmigan, in strong wind and cold. Very wintry, though half-sunny. After about half an hour of trudging thru the snow, we found a group of 6-8 and watched them half an hour. Lovely view in a lovely setting, Mt. Bierstadt on the horizon and the open pass. You see the black eye and black bill in the snow, otherwise there is perfect camouflage, until they move. Maybe thirty feet from the closest one. Three or four walked up and on a big rock some, walked around a bit, but mostly sort of nestled down in the snow.

Returned, failed to find three-toed woodpeckers back at Guanella Pass campground. Then Cafaro drove home. Great day, first time I have seen ptarmigan in white in dead of winter, though I have seen them nearly white in late fall, with Clait Braun.

February 22, 01. At California Polytechnic University Ibispo. My host Judy Saltzman took me on a morning ride to breakfast at a restaurant overlooking Morro Rock, Morro Bay, a huge volcanic relict out in the bay, though a causeway has been made to it. Later, drove out to the Rock, which



is a peregrine falcon refuge. Quite good surf, gulls, brown pelican, cormorants around the rock. Then drove to Los Osos ("the Bears," from bears that used to live there), a village and her home. Then to Montana de Oro State Park, quite scenic, even in the rain. Rains here December through April, maybe, and is dry the rest of the year. Lots of eucalyptus, often planted, and now undesired, at least by some; others like it. San Luis Obispo is "St. Louis the Bishop" named after such a person.

March 1, 2001. Sipsey Wilderness, Alabama, with Bill Forbes, John and Augusta Vos. Left Birmingham about 7.15 and drove to Bankhead National Forest, thru Double Springs. First to Sipsey River Recreational Area trailhead, and hiked up the Sipsey a quarter mile, then up Borden Creek. Nice riverside hike and some good cliffs and small waterfalls. Some Trilliums in good bud, not flower. Anemonella, Hepatica, and an unknown one. Later, this seems to be Pepper-and-Salt (not Salt-and-Pepper), Erigenia bulbosa, a small umbellifer, Parsley Family, Apiaceae. Bob Tate, Bill's friend, knows them pretty well.

Returned and drove around to Thompson Creek Parking area, and hiked to the Eye of the Needle and around the rapids. Good woods, approaching old-growth forest lower down. Trail descends but not all that steeply, crosses Whiteoak Creek, then reached good cliffs, including a fairly narrow promontory with a sizeable opening, a rock arch. Then Thompson Creek joins with Quillan Creek to form the Sipsey River. Walked around to the other side of the promontory to the rapids in the river. Bloodroot (Sanguinaria), Anemonella, Hepatica, and the same unknown one (Pepper and Salt). Lots of Earleaf Magnolia in here, also splendid tulip poplars. Hemlock, mostly cut out and young ones. Oaks. Red maple in flower.

At return to the car, there was an armadillo feeding in the leaves, who paid rather little attention to us. Watched it at close range twenty minutes. Strange animal; seemed agile enough despite the armor plates. Big ears. Armadillos were not found in Alabama when I was a child here, but have since moved in from Louisiana and parts west.

March 7, 8, 9, 2001. Wed., Thurs., Fri. After the Leith Lectures at Auburn First Presbyterian Church. Went to farm. Paulownia tree in full bloom, no leaves, in back yard, Paulownia tomentosa, ornamental from Japan, sometimes escapes. Weeds in front yard: Henbit, Lamium amplexicaule, Chickweed, Stellaria media, and a new one Pygmy Bluets, Houstonia pygmaea, a Western species recently discovered invading lawns in central Alabama, not previously known east of Texas. Bill and Bill deYampert burned a field with bush and small trees, prior to Bill's cutting down the trees, to bring it back into pasture. Coyotes heard howling at night. Half a dozen cardinals, mockingbirds. Redbud in bloom. Some wild or escaped plums.

John and Augusta Vos were on a Birmingham Audubon bird field trip at Lakeland Farms on March 18 and saw a bald eagle, then three more adult bald eagles, two immatures, and two eaglets in a nest. White-crowned sparrows, yellow-rumped warblers, golden plovers (migrating to Arctic), a loggerhead shrike, barn swallows, purple martins a Cooper's hawk, a kestrel. Cardinals, bluebirds, and Canada geese.

March 15-20. Churchill, Manitoba, to see aurora borealis. Left Denver Thursday, March 15 and flew to Winnipeg. Had to spend the night there because I could not make it to Winnipeg in time to catch the single flight to Churchill. There is a long train ride, 36 hours, which the tours usually take, one way only; they fly back. But I did not have time for this. Wintry in Winnipeg; stayed in Comfort Inn, walked 4-5 blocks to MacDonalds. Air Canada lost my luggage, a nuisance.

Friday, March 16, flew to Churchill. Latitude, 58° North. Good clear day, flight over boreal forest, after some initial wheat fields, then over Lake Winnipeg, then over zillions of lakes large and small, connecting rivers, with a general northeast trend, from glaciation. There is a road to a hydroelectric plant at Gillam, after that no roads, summer or winter. Churchill is served by boat, train, and plane only.

Reached Churchill, regained my suitcase, and got 4WD truck, checked in to LaPereuse B&B, run by Anne Gould and Raymond Girardin, husband and wife. He is with Parcs Canada, and was gone while I was there, trying to arrange a Natural Habitat seals trip in eastern Canada.

Drove out into dark area outside town after supper, but saw nothing in otherwise clear and starry sky, so was disappointed. But on return I learned the aurora does not start much until the midnight hours. So returned in the cold (-24° C, - 14° F) further out for a marvelous display about midnight. Big arc across the whole sky, horizon to horizon, dissolving and remaking, with curtains draping down and lights coming and going. Rays, swirls, streams. Watched it upwards of an hour, getting back in the truck now and then to warm up a bit. Whites and greens, no more colors, but I saw all the displays I have seen pictured. Later, locals say they never see reds.)

General notes on aurora borealis. There is an auroral zone, a circle through northern Alaska, Hudson Bay, Iceland, northern Russia. With a matching one in Antarctica. Aurora are most frequent in this zone. They are most frequent in the midnight hours.

The solar wind (electrons, some protons), hits Earth's magnetosphere (magnetic field) and the electrons are pulled around towards the poles. Electrons hit and excite oxygen atoms mostly, nitrogen some (not molecules, O<sub>2</sub> and N<sub>2</sub>, but dissociated atoms in the high atmosphere). Then these excited atoms emit photons, light. The commonest change is from the second excited level back to the first excited level, emitting a greenish white color. The first level excited state also drops to ground level, but this effect is dampened out, because oxygen stays excited at first level longer (a minute or so) compared with a second or so at second level. This allows time for the excited atom to hit other atoms and the energy may leave it that way, rather than as photons.

There are peaks at eleven year intervals, though this cycle is not always reliable. The next peak is 2002.

Saturday, March 17. Clear day at first, but later cloudy, clouds to remain for the rest of my trip. Drove out to the Churchill Northern Study Center to find it locked up; couldn't raise anybody. 26 kilometers along the Hudson Bay. Rather scenic, if also rather severe. The Bay is frozen here, though this is salt water, ocean, and it does not entirely freeze further out. Also, there can be leads (big cracks) opening up in the ice from time to time. Open water barely visible in the distance. Trees are sparse here, and small, widely scattered. Also willows.

Areas are quite rocky, and some of these blown free of snow. The snow is not that deep, though

overall quite a wintry landscape. U.S. and Canadians had a military base here, for early warning missile detection and launching, but that is now closed, part of it converted into the Churchill Northern Study Center. Lots of ravens, not much else. Returned for a late lunch in the truck. Visited Eskimo museum, rather a good one. Nothing much else in the afternoon. Kept hoping weather would clear in the evening, but it did not.

Further out is Wapusk National Park, recently created, 1996, and accessible only by boat or tundra buggy. "Wapusk" is a Cree word for "white bear." Polar bears congregate here in the fall, waiting for the ice to freeze, after which they can kill seals on the ice. Churchill is the "polar bear capitol of the world." Also here is a denning area, where the sows den. Tundra buggies are busses on huge, tractor-sized wheels that they use for this, especially in the fall. But disturbing the mothers in spring is discouraged.

Sunday, March 18. Drove up the Churchill River to Goose Creek and beyond to a water intake for the town (maybe 25 km.) Poking around mostly. The forest close to the river is more considerable. Trees are mostly white and black spruce. Lots of willows in areas. Returned for lunch, then drove back out the Hudson Bay shoreline road a bit. Generally overcast, and rather obvious there would be no visibility of aurora tonight.

Monday, March 19. Up and out to return truck but she told me just to take it to the airport and leave it there. Flight to Winnipeg. Quite overcast and little visibility in Winnipeg.

Tuesday, March 20. Flight home.

Nunnavut Territory was formed in 1993, out of the former Northwest Territory, taking most of the area, but not the western part, which remains as the New Northwest Territory (Yellowknife). Nunnavut means "our land" in Inuktitut language. Inuktitut language was put in writing using a syllabics by Wesleyan and Anglican missionaries in 1840's and 1850's. There are 35,000 people, native Americans, in the territory.

Northern lights were seen in Estes Park, early November 2001, a red glow from northeast to northwest, merging into green in the north. *Rocky Mountain Nature Association Quarterly*, Winter 2002, p. 16.

Davis, Neil, *The Aurora Watcher's Handbook*. Fairbanks, Alaska: University of Alaska Press, 1992. Best of these books. Bought it after I got home. Girardin had a copy and I read it while in Churchill.

Savage, Candace, *Aurora: The Mysterious Northern Lights*. Vancouver/Toronto: Greystone Books, Douglas and McIntyre, 1995. Picture book. Read it.

Johnson, Karen L., *Wildflowers of Churchill and the Hudson Bay Region*. Winnipeg: Manitoba Museum of Man and Nature, 1987. Good one.

Porsild, A. E., and Cody, William J., *Vascular Plants of the Continental Northwest Territories, Canada*. Ottawa: National Museum of Natural Sciences, National Museum of Canada, 1980.

Porsild, A. E., *Illustrated Flora of the Canadian Arctic Archipelago* Ottawa: National Museum of Natural Sciences, National Museum of Canada, 1957, 1973.

Burt, Page, *Barrenland Beauties: Showy Plants of the Arctic Coast*. Yellowknife, N.W.T.: Outcrop Ltd, 1991. ISBN 0-919315-25-9.

Pruitt, William O., Jr., Boreal Ecology. Southampton, UK: Edward Arnold, 1978. ISBN 0 7131 2686 8. In a series Studies in Biology. 73 pages. I read it in Churchill. Pruitt was in zoology, University of Manitoba, seems to be a celebrated figure in the area. Ecosystems are simple, typically only a couple predators, a couple scavengers.

Pruitt, William O., Jr., Animals of the North. NY: Harper and Row, 1960. Reprinted as Wild Harmony: The Cycle of Life in the Northern Forest. Saskatoon, Saskatchewan: Western Producers Prairie Books, 1983.

Boothroyd, Peter, Let the River Flow: The Story of the Churchill River. Churchill, Manitoba: Town of Churchill, 2000. ISBN 0-9687723-0-7. History of the Churchill River, especially its cutoff into the Nelson River for a massive irrigation project, which greatly degraded the river. A weir has been built 6-8 miles above the town of Churchill to recover some of the damages.

Falck-Ytter, Harald, et al., Aurora: The Northern Lights in Mythology, History, and Science. 2nd ed. Anthroposopic Press, February 1999. 144 pages. ISBN 0 880-104686.

Gadd, Ben, Handbook of the Canadian Rockies, 2nd ed. Jasper, Alberta: Corax Press, 1995. 1st ed., 1986. Good, but Rockies, not prairies.

end, Churchill trip

March 31, 01. Little Owls, with Kevin Cook, Rocky Mountain National Park Nature Association Seminar. Decent class, but no owls. Rather windy, Listened mostly for saw-whet owls, on road from old Hidden Valley turnoff up to the overlook over Horseshoe Park, going up toward Deer Ridge.

Saw-whet owls prefer forest, here lodgepole or spruce, but it can be cottonwoods by rivers on the plains. Kevin distinguishes between forests (closed canopy) and woodland (open canopy, frequent trees, not savanna). Pygmy owls prefer ponderosa woodlands.

Flammulated owls prefer aspen stands in ponderosa woodlands. Look carefully with binoculars at the base of woodpecker holes in aspen. They will be worn, like a threshold, with the talons of the owls if they are in use. Flammulated migrate and are not here now. The time to see them is July, and Kevin finds them regularly toward Pennock Pass.

Boreal owls are in forests toward timberline.

April 7, 2001, at Mary Jack's in Greensboro. Hike into Birkhead Mountain Wilderness, Umwharrie National Forest. With Jane, Ernest, Mary Jack. Drove south from Greensboro on Route 220 to near Ashboro, then on Route 49 east a few miles, inquired at sporting goods store and got map. South on Route 1107 and trailhead. Hiked Thornburg Trail several hours. Lovely day. Nothing yet out but some dogwood, redbud. Red maples already in fruit.

Only wildflower was bluets (once in Houstonia, now Hedyotis caerulea), several dozens of these. Typical birds. Field sparrows. Wild turkeys have been restored here, none seen. Cut over woods, but regenerating and reasonably free of the exotics. Returned and checked out the lower trailhead, Robbins Branch and Hannah Creek.

Gemini Maps of N. C., Inc., P. O. Box 329, New London, NC 28127. 336/461-5216

Umwharrie National Forest, Troy, NC 27371-9332. 910/576-6391

April 9, 01. Monday. Left Greensboro 7.00 a.m. and drove to Raleigh with Jane to meet Bettie Gordon, her former roommate. Left Jane with her and drove to Asheville, using Route 64 to avoid the heavy interstate traffic on I-40. Great weather continues and not bad driving, though rural North Carolina is increasingly crowded.

Reached Asheville and found Arden, just outside Asheville, and Dan Zeluff about 4.00 p.m. Bob Crumby is also here. We drove up in Pisgah National Forest to restaurant overlooking the area, adjacent to Mt. Pisgah, 5,749 ft., and had supper there. On Blue Ridge Parkway, s.w. of town. Lovely view. Dan much interested in some Lycopodium, which he didn't seem to know at all. Three ruffed grouse on way back, along the road. Nice spring green, just coming out.

April 10, Tuesday. Drove up Mt. Mitchell, 6,684 ft., (which is a state park enclave inside the Pisgah National Forest), and the three of us were the only ones there! Lovely day and good view. Lots of dead Fraser Fir, Abies fraseri, from an aphid, stressed by pollution? Still unclear. This is the southern fir, including that on White-Top and Mt. Rogers. The fir from mid-Virginia north is Balsam Fir, Abies balsamea. Bits of snow left over in drifts roadside. It snowed here two weeks ago.

En route, Bloodroot, Sanguinaria canadensis, in finest bloom, on an otherwise brown forest floor, which I don't recall seeing in years. Spring beauty, Claytonia virginica. Small-flowered crowfoot, Ranunculus abortivus. Redbud nicely out. Dogwood only half out. Some tulip poplar coming out. One ruffed grouse in the road, nicely seen. No time to work out the birds.

Returned for lunch with a friend of Dan's. Then Crumby and I drove, stopping at folk crafts center, to Montreat, not all that much changed from times gone by. He reminisced where we first met, outside the building still standing to the west end of Lake Susan. Then he took me to Hartley Hall's big new home (after he retired as president of Union Seminary), spectacular on a high hillside overlooking Black Mountain. But alas Hartley and Ann have divorced. Returned for an evening meal with more of Dan's friends.

April 11, Wednesday. Drove to Charlotte, via Bat Cave, Chimney Rock, and Lake Lure. Reminiscences of the past but these are now uninteresting touristy areas. Clear and good day, but hazy toward Charlotte, said by the weatherman to be record levels of pollen in the atmosphere. Car was coated with pollen.

Tried to get Jane at home, supposedly flying out of Raleigh to Charlotte to Denver, to discover late in the evening that Jane never got out of Charlotte, due to blizzard in Denver. So we were spending the night a few miles from each other, unawares.

April 12-17, Florida. Flew to Jacksonville and symposium and lecture at University of Florida, Department of Religion. Alligator in Lake Alice on campus.

April 14, Saturday. Drove to Lake Helen to see Gordon Rolston, genealogist.

April 15, Sunday. Easter. Left Gordon Rolston's and went to church, DeLand, then to Lake Woodruff Wildlife Refuge. Moorhen (formerly common gallinule), dozen or more. Three alligators, one big one crossing the raised grassy berm between ponds. Two smaller ones, one in grass, one

in water. Great blue heron. Great egrets, lots of them. Immature bald eagle? Sandhill crane on nest, up close, nice. Osprey, well overhead, carrying in its feet a duck or teal. Black vultures, lots of them. White ibis. Redwing blackbirds.

Nice palmetto/pine woodland/swamp on the way in, trees with buttressed roots.

Coontie. Sago palm? Zamia pumila, native to Florida, and widely planted as a potted ornamental. Rather fern-like. Somewhat palm-like, to three feet high. Is this a cycad? Yes. Zamia floridana, an older name, good pix in Judd, Plant Systematics, p. 151.

1.30 p.m. or so, drove on to Ocala National Forest. Got motel in Silver Springs, and map at visitor center. Then hiked the Florida National Scenic Trail from Juniper Springs into Juniper Prairie Wilderness, Ocala National Forest, three miles or so in. Some good woods, the earlier part of trail goes through clearcut, regenerating. Sand pine, Pinus clausa, here called Ocala sand pine, is the main pine, tall and spindly, seldom straight up, but rather picturesque with palmetto, Serenoa repens, below. Serotinous cones. Mostly looking at flora I didn't know. Lots of towhees. Returned and prowled around until dark. There is a canoe ride downstream thru the wilderness, takes four hours.

Ocala National Forest has four wilderness areas, the other three smaller.

April 16, Monday. Drove to Salt Springs, hiked trail into observation point on Salt Springs Run. Forest of sand pine/scrub, then hardwood hammock, and cypress. Reached the observation point, after a two hundred yard boardwalk. Osprey in nice dive, hit water hard, but got nothing. Moorhens. Great egret. One sizeable alligator in the run, head and eyes only seen.

Returned, lunched in Salt Springs spring area, a picnic and swimming area. Springs are said to be a little salty. Black snake crossing road, presumably a black racer. 4 feet long. Picnic area is marvelous live oaks, great trees with long overhanging limbs, often horizontal, covered with Spanish moss and resurrection fern. Great pileated woodpecker seen at length and rather close, working the trees, the best view of a pileated that I recall.

On to Rodman Dam, with much fishing at the dam overflow. Also fifteen or so cormorants, all lined up on a cable and posts crossing the river below the dam. Three or four osprey close in. Then back to Rodman camp area, and boardwalk. Nice look at a least bittern, walking across the boardwalk. This could be the first time I have seen this bird. Coots. Grackles. Got a haircut in Palatka, to spruce up for the Hastings lecture upcoming, and took off for Jacksonville.

Found a deer tick on my waist, and so went to see Thorson on return and took Doxycycline for 14 days, all the while I was in Utah!

## Red Rocks 'n Llamas, Escalante Canyon, Utah

April 21-May 1, 2001. Red Rocks 'n Llamas, Escalante Canyon, Utah. With Bill Forbes. Bill arrived Friday, April 20. Saturday, April 21, we left (after getting his Uganda visa application in the mail) and drove to Grand Junction, for the night. Generally overcast day.

April 21, Sunday. Drove to Green River, then left interstate 70 and south to Capitol Reef National Park. Henry Mountains on the skyline. En route, desert was often matted with Yellow Bee-plant, Cleome lutea, and Purple Mat, Nama demissum. Rangers there said they had never seen it this abundant before, after good rains. Lunch at Capitol Reef, cold, windy.

Continued drive over Boulder Mountains, with snow pack there and huge expanses of aspen, 9,000 feet and more.

The Grand Staircase is the combination of the Pink, White, and Vermillion Cliffs, below Bryce Canyon.

Reached Boulder, much less of a town than we thought, little more than a crossroads. Stayed at Boulder Mountain Lodge, a pricey resort drawing customers somehow from the uptown set passing through. Pond just outside with some ducks on it. Yellow-headed blackbirds.

April 23, Monday. Met Bevin Taylor, who runs Red Rocks 'n Llamas, and the guides for our trip:

Matt Graham, General Delivery, Boulder, UT 84716. Has done several endurance runs, including the Pacific Crest Trail.

David Halladay, P. O. Box 1345, Boulder, UT 84716. Mormon background, and big on aboriginal skills. Worked with John Frye and the Sanctuary Movement.

Jill Christensen. Born in Korea and left as an infant at a police station. Adopted by Mormons and raised in Utah.

Participants:

Bill and myself and one other: Gary Dawson, 13231 Desert Rose, N.E., Albuquerque, NM 87111-7113, formerly in computer technology.

Drove out to Harris Wash in van, with llamas in a truck, and started down Harris Wash. We were only supposed to put 15 pounds on the llama, and that cramped my style somewhat. Couldn't take the reference guides to birds and plants that I wished. Barefoot guides, all the way. Though now and again, when cold, they might put on sandals. Hiked in and out of water all day, which I wasn't quite expecting. Put on my jogging shoes and just hiked in those, which stayed wet, and sandy. After a mile or two, there was typically 3-4 inches of water in the wash, nice sandy bottom, and we were walking in it half the time.

Seven llamas. I led one until after lunch, but then tied it in a string to get hands free for my camera. A few flowers in bloom, a penstemon, a mallow. A white daisy (Erigeron? Townsendia?)

Twelfth century granary. Small stone/mud hut high in a rock alcove. (We ate lunch here coming out.)



Camped at a big alcove, with the kitchen in the alcove. They did have good folding chairs. Tent in an oak grove nearby.

Oak here seems to be Shinnery oak, Quercus harvardii, the one in the sand dunes. Named for Lt. Valery Harvard, (a man), a botanist in the U.S. Army in Texas. Not Gambel's oak, Q. gambelii, though not much different from it.

April 24, Tuesday. Hike to Silver Falls Creek. Hiked down Harris Wash, as often walking in the creek as not. Slosy. Towhee. Quite scenic with walls on one side or the other of the wash. Reached the Escalante River about noon, and waded it. Walked up to the Silver Falls Wash, maybe a half mile, and lunched at the junction of that wash and the river. After lunch, walked up Silver Falls Wash about half a mile. (various pix) Returned. Bill took a swim in the river. Pix of me fording the river.

Seemed longer coming back and I got hot spots from sloshing in wet-soaked and sandy tennis shoes. One splendid alcove and took a break here.

Taped up the hot spots on my feed with duct tape. Band aids won't stay on in all the water.

After supper, David and Matt started a fire by hand drill from native materials and stone chipping tools. Used no knives or whatever, only local materials. Did it surprisingly fast, and one of the things that brought a small spark to something bigger was dried cow dung sprinkled over it lightly.

Jimson weed, sacred Datura, Datura wrightii is in camp. Looks about like eastern jimson weed, poisonous, used to induce visions. Eastern weed is Datura stramonium, introduced from Asia. Named for Charles Wright, botanist of the SW.

April 24, Wednesday. Hike up top, to sand dunes. More duct tape on the hot spots. Turn a bit of it around and stick it on backwards to protect the actual wound. I used jogging shoes in the creek a mile or so, then put on boots for the climb.

Reached an area with triangular petroglyphs. Corn cobs, bone fragments, all said to be from the Anasazi people, 800-1200 A.D.

Anasazi means "old ones," or "old enemies," a Navajo term for these former peoples. Other native Americans do not like to use the Navajo term, thought to be pejorative. Though the Navajo's had no oral memories back to 1000-1200 that continued on down until the Europeans came.

Indians in this region are now said to be Fremont culture, though that too is no old name. John C. Fremont.

7 inches of rainfall per year in this region.

Single-leaved ash, Fraxinus anomala. Common in gulches, desert canyons. Has typical ash samaras. Pix, Elmore, Shrubs and Trees of the Southwest Uplands.

Rumex hymenosepalus, a dock, locally called Canaigre. Fish-hook cactus. Yucca, presumably Yucca harrimaniae, Harriman's yucca.

Roundleaf buffaloberry, Shepherdia rotundifolia. Reminiscent of the one we have in Colorado, Shepherdia canadensis.

Pinyon. Pinus edulis. Lots of it.

Juniper. Utah juniper. Juniperinus osteosperma.

Giant sagebrush, Artemisia tridentata.

Tamarisk. Tamarix ramosissima. Salt cedar. It can grow in alkaline environments and secrete salt. Sometimes in such amounts that people gathered it. It is a phreatophyte, which means it can put roots down to reach water, and lower the water table for other plants. So it is a water hog.

Fremont's barberry, Mahonia fremontii, in good yellow bloom, and evidently a barberry. McMahon was Philadelphia Irish immigrant who ran a plant nursery. Species named for John C. Fremont.

Wild onion. Allium textile.

Rockcress. Arabis pulchra.

They all say this is a wet year, and things look great, though it looks rather much desert to me. Looks arid. They have already had their average annual rainfall.

We climbed "slick rock," with some steep spots.

Ephedra torreyana, Mormon tea. Bright green jointed stems, broom-like. Mormons brewed a tea with it. A gymnosperm. The leaves, which would be needles if there were any, are only bracts. The stems are green and photosynthetic. Make cones and are related to pines and junipers

Lunch under a juniper tree and shade, with sand dunes opposite, and a rock dome above that.

Hike back. Some steep places on the way down

Went to see another alcove. Bill and others went over, but I stayed back, since you had to go through poison oak. Good granary there; Bill took pictures, and I saw them on his camera, which plays them back at once.

Returned to camp.

April 26, Thursday. Trip to side box canyon. Hiked down the wash about one and a half miles. Investigated three alcoves, the biggest with various Anasazi fragments, corn cobs, pot shards, broken bones.

Then to a box canyon, wading up a narrow creek, which then got rougher. Lunched. I napped while the others went on, protecting my feet.

Great horned owl, being harassed by a smaller bird. The others saw a racoon. We had been seeing lots of raccoon tracks.

Rose. Rosa woodsii,

. Apocynum cannabinum, Dogbane. (cannabinum = like hemp, used also to weave cordage) = Indian hemp.

Prickly pear, Opuntia polykantha

Fish hook cactus, Sclerocactus whipplei

Cottonwood. Fremont's cottonwood, Populus fremontii. Differs from Plains cottonwood with smaller and more coarsely toothed leaves. Male and female trees, as all cottonwoods.

Boxelder, Acer negundo, though Weber puts it now in Negundo aceroides.

Russian olive, Eleagnus angustifolius. Lots of it.

Squawbush, Rhus aromatica, var. trilobata. Canyonsides and rimrock.

Poison ivy, Toxicodendrom rydbergii. Never climbs trees like the Eastern one.

Rabbit-brush, Chrysothamnus nauseosus. Rabbits eat the seeds and use it for shelter. Lots of it.

Alfalfa. Plantain. Erigeron. Mallow.

Evening primrose, White evening primrose. Oenothera caespitosa, var., marginata. "caespitosa" = low-growing.

Prince's plume, Stanleya pinnata. In camp but not out.

Utah serviceberry, Amelanchier utahensis.

Common globemallow, Sphaeralcea coccinea. Orange-scarlet color. In bloom.

Cryptobiotic soil crust. Patches of dark, knobby, brittle crust. Scruffy, apparently dead and dried out rind. Cyanobacteria, algae, moss, fungi, lichen. This covers 75 % of the 130,000 square miles of the Colorado Plateau. Alive and of ecological importance. Cyanobacteria are the most prevalent and most important component. When filaments of cyanobacteria are moistened, they advance through the soil, leaving sheaths of sticky mucilage on their trail. These gluey filaments bind to soil particles and, over time, can create an erosion-resistant surface.

Because cyanobacteria are able to capture nitrogen from the air and convert it to a form that plants can use, it serves as fertilizer--in a system notoriously poor in nitrogen. Calcium, potassium and manganese bind to the sheaths and are made available to plants in usable form. When wet, the sheaths will expand to ten times their dry size, enabling the cryptobiotic soil crust to retain moisture, to its own benefit as well as that of nearby vascular plants. (from Arches National Park flyer).

Slow to regenerate after disturbance.

Towhee. Swallows.

On the whole there are few birds. Nice dipper seen coming back.

April 27, Friday. Hike out. Cloudy day more or less all day, but rather welcome, as I was getting too much sun. Flycatcher in camp. Packed up.

Stopped in an alcove with various artifacts, corn cobs, pot shards, bones.

Lunched in a nice headwall with an excellent granary up high (pix), which I had seen, but not the others, one the day down.

Reached the Portal (the narrowest area of the wash) (pix), and then did a loop to see a huge alcove, the best one yet, one what was once the course of the wash, like an oxbow, now cut off with the wash taking a shorter course. (various pix).

Hiked out, a bit of a slog toward the end. Out about 3.30, and back in Boulder about 5.30. Supper in Burr Road Grill, pizza, and blueberry pie.

April 28, Saturday. Breakfast at Burr Road Grill, then off over Boulder Mountains to Capital Reef National Park. Great expanse of aspen, still not out. Turkey, nicely seen on the road, with a beard, a male. Ruffed grouse. Lots of snow here yet. 6-8 mule deer.

Reached Torrey. Gas and bread. A few grocery stores are and decent motels in Torrey. Reached Capital Reef National Park and set up camp in campsite in old orchard, about 10.30 a.m.

Visitor center, then hiked up Hickman Ridge Trail to Hickman Bridge, an impressive natural bridge (pix). Then returned part way back and hiked the Rim View Trail, about one mile. But my feet were giving out, still with broken skin from the creek hiking. Bill hiked a bit further. Lovely red rocks and much eroded.

Returned. A "reef" here is a cliff line that is a barrier to travel, called a reef because it blocked travel like a reef blocked sailors at sea. Many of the earliest explorers also had nautical backgrounds. Capital Reef runs about 100 miles, with few places to get a wagon through it. Capitol Dome is a rock dome on the Reef that looks like the dome of the Capitol in Washington (pix). About 4 miles of hiking.

Returned, petrography on the way back, along a cliff, seen from a boardwalk  
Supper. Then drove down the scenic road. 15 or so deer in campground on way out. Barren though beautiful area in evening sun. Juniper and pinyon. One cottontail. One kestrel.

April 29, Sunday.

Hike to The Tanks. Drove back down the scenic road to trailhead. Hiked through spectacular gorge, with a "pioneer registry," names of pioneers (and some later red necks) carved in the desert varnish.

Returned, lunched at a picnic area at the head of the dirt road, then returned and looked at Grand Wash but decided to hike Chimney Rock trail instead.

White coating in washes on the rocks is a gypsum/calcite evaporite.

Desert varnish is manganese and iron oxides, though 70% clay. Formed in wetter times, possibly the last Ice Age.

Capitol Reef is a monocline, from the Waterpocket fold, capped by Navajo sandstone.

Hiked up Chimney Rock Trail, a 3 ½ mile loop, though I just did a mile and a quarter of it, the climb to overlook Chimney Rock (pix). Nursing my feet. Bill did more.

Drove up to Goosenecks and Sunset Point after supper.



Classic incised meanders of Sulphur Creek, cut 800 feet into sandstone. Five great incised meanders here.

Incised meander = entrenched meander. Deep meanders cut by a rejuvenated stream, the meandering course having been acquired earlier when the terrain was flat.

April 30, Monday. Pulled camp, and off 9.00 a.m., to Arches National Park.

Yellow bee-plant in spectacular bloom on the floor of the desert. Rangers said they had never need it like this. A wet year. Henry Mountains in distance.

Reached Moab and got motel. Then drove into Arches, lunch at Balanced Rock (pix), a striking scene with the La Sal Mountains behind.

Then short hikes in the Windows section. North Window (pix), Turret Arch (pix), South Window (pix). Striking arches.

Double Arch (pix).

Then drove to Delicate Arch area, hiked up half a mile to overlook Delicate Arch, high on a hill in the distance (pix).

Then drove to Devil's Garden area and hiked in to Landscape Arch (pix). Landscape Arch is due to fall, some big pieces fell out of it. In 1991, September, a few small pieces began to fall, and within seconds a 70 foot long slab of rock dropped out from the underside of the arch's thinnest section. The trail under the arch has been since closed.

Returning on the hike went to Pine Arch (with long vertical oval opening, as I photographed it).

And back to the motel for a much-needed shower.

Striking red rock here is the Entrada Sandstone, from which the arches are carved, and the floor is the Navajo Sandstone.

Moab was long a uranium town. Now mostly a tourist town.

May 1, Tuesday. Drove home. Up early and steady drive. Good day. Reached home about 3.30 p.m.

end of Red Rocks 'n Llamas.

May 23. Sold the Steury camper, after owning it 25 years, a quarter of a century. 1976-2001. But we hadn't used it since 1997. Too much bother. Got a good big Eureka tent, with 6 foot headroom now. Bought it last year.

Back to running 3 miles regularly, with no heel pain. Heel is doing quite well, though I continue the stretching exercises every morning.

### Guam Inter-Pacific Science Congress

May 30, Wednesday. Left Ft. Collins 7.40 a.m., reached Denver, for major snafu at the airport. Limo 25 minutes late to begin with, and then Northwest so jammed with customers and understaffed that they couldn't check us in on time, for a Minneapolis connection. We were eventually rebooked for the next day. Returned on limo.

May 31, Thursday. Off again, on Airport Express as Shamrock was full. This time it worked. Minneapolis, then 12 hour flight to Tokyo, then flight to Guam. Reached Guam 1.20 a.m., local time, June 2. Crossed dateline and skipped Friday, June 1, our wedding anniversary.

June 2-5, Saturday thru Tuesday, at the Pacific Science Inter-Congress. Maybe 300 here.

June 3, Sunday. World War II Military tour field trip. Led by Dirk Ballendorf, University of Guam history professor. Visited Asan Bay, and Japanese cave carved into the hillside. Visited military museum on the base, and Japanese two-man submarine (pix). Hard rain. Visited Ga'an Point, with Japanese guns (pix).

Gave paper Tuesday afternoon to a slim audience. Then a banquet at the Governor's House.

General notes on Guam. Guam is U.S. territory, acquired from Spanish in 1898, end of Spanish American War. Japanese took it in 1941, with little fight as it was not fortified. Americans recaptured (liberated) it in 1944, with big fight, 55,000 troops, 2,124 dead, 5,250 injured. 17,000 Japanese killed, or killed themselves, 1,250 captured. U.S. Naval base, U.S. Air Force base dominate the island.

Massive tourist business, massively Japanese, both the visitors and the owners.

The indigenous culture is Chamorro. But they mixed with the Spanish for four hundred years, since 1668. Suffered from smallpox and syphilis.

The island is volcanic, with volcanic rocks exposed in the southern half of the island. The northern half of the island has limestone rocks overlaid on volcanics. Guam is really the highest mountain in the world, if you base elevation from the bottom of the Mariana Trench.

After World War II, the brown tree snake was accidentally introduced into Guam, probably on military vehicles. With no natural predators and abundant prey, the snake population steadily grew

and spread throughout the island. As the snakes dispersed, forest bird and fruit bat populations plummeted. By the late 1980's, twelve species of birds and the little Mariana fruit bat had disappeared from Guam.

Introduced feral pigs and deer, over-hunting, and habitat loss from human development are also major factors in the decline and loss of Guam's native plants and animals. Soil erosion, pollution of various kinds, especially sewage from tourist developments, mostly raw sewage dumped at sea, and over-fishing seriously impact Guam's coral reefs. About 25% of the coral reefs are designated as reserves or preserves, sometimes more, sometimes less well protected. Guam National Wildlife Preserve, at the far north, is the only federal wildlife preserve. One of three units is open to the public, the Ritidian area; two others are on military lands.

Plumeria acuminata, tree outside hotel, large white blossoms.

Pandanus tree, or shrub. Screw pine. With prominent prop roots, often seen.

June 6, Wednesday. Got Budget Rental and drove south.

Visited War in the Pacific National Historical Park (which had not been open Sunday for the military tour).

Hard rain midday. Checked in at Motel, The Inn on the Bay, Agat.

Saw site where Magellan is supposed to have landed in 1521. (though many doubt it)

Saw feral pigs, seen near Taloforo Falls, four of them. Brown with white spots. One a boar. One seen later in a pen was all black. Considered a game species, with a hunting season. Sus scrofa.

Saw black francolins, white diamond on side of face, chestnut neck, released here. Nicely seen, cocks and hens, 6-8 of them along the road.

Lots of small lizards around. There are seven kind of skinks. The most common is Curious skink, Carlia fisca. Black.

There is one anole, like a green lizard. Anolis carolinensis. (Remember that the Federated States of Micronesia are, or were, the Caroline Islands.) Lives in trees.

Returned to motel. Saw beachfront pill box, in park area at end of day. Took pix of it the next morning.

Guam has an introduced deer, the Philippine deer, Cervis mariannus. It was introduced by the Spanish, 200 years ago. There is a hunting season on them.

June 7, Thursday.

Headed north and did the Fish Eye, boardwalk out 100 yards over the water and then you walk downstairs under water. Lots of lovely fish. Shot a whole roll (24 exp) of Ektachrome 400, with Canon AE-1 and auto winder, my first roll with it.

Double saddle butterfly fish, Chaetodon ulietensis

Teardrip butterfly fish

Dusky anemonefish



Napoleon wrasse  
Moustache triggerfish  
Scissortail sargeant  
Yellow surgeonfish  
Goatfish  
Masked bannerfish  
Scrawled filefish  
Squirrelfish  
Cleaner wrasse  
Neon damsel, Pomacentris coelestris  
Blacktip shark

Found the Atlantis submarine dock and I took the submarine ride. Jane stayed ashore. Went out with a boatload of Japanese, I was the only passenger who spoke English, although the crew was all English speaking and the guide multi-lingual. Rode out in a surface boat. The aircraft carrier, Kitty Hawk, pulled into port last night, and we rode right by it (pix).

Transferred to a submarine, the Atlantis, and went underwater. Sub holds about 40 people. Rode over a coral reef, lots of different kinds of corals, about which I knew nothing. But I had a good one-on-one guide, one of the crew. Spectacular formations, though the color is not all that great, mostly just shades of blue and black. Lots of fish, though not so many and not so highly colored as at the Fish Eye. Common one was black jack, Caranx lugubris. All this was about 25-30 feet underwater.

Then we descended to 120 feet, off the edge of the reef, and it got darker. We were said to be within 6-8 feet of the bottom but we couldn't see it. Little coral grows here, too dark.

There are ten of these submarines, one in Hawaii, and others scattered around. Built in Canada.

Returned. Lunch in the same park as Wednesday.

Drove into town, tried to check into motel, but room wasn't ready. Inquired about a trip to Rota, next island north, but it didn't work. You have to fly, 30 minutes, but \$ 148 roundtrip.

Drove north, to Two Lover's Point, quite developed park. Then down to Tanguisson Beach Park. Returned to main road and drove north, through Anderson Air Force Base. Reached Ritidian Point, the northern tip of the island and Guam National Wildlife Refuge. 772 acres, not large, but the other side is a military base. Also two units are on military bases, not open to the public. Good beach with white sand.

This is a turtle sanctuary. Greenback and hopefully Hawksbill turtles. They have regularly seen greenback turtles, one was on the beach a month ago, but they don't know if it laid any eggs. They have never seen Hawksbills, which may be extinct. Also protects the endangered Mariana fruit bat.

On return, drove up to some installation, trying to see Rota better. There were several black francolins near the road, and we watched one cock chase a hen several minutes, and then catch her and mount her, like a rooster with hens.

Some dense forests, with lots of ferns. Never tall forests, but often quite dense.

Returned, getting supper at a MacDonalds near the air force base. We could see Rota Island, in the distance to the north.

June 8, Friday.

Drove south, to the Chamorros village at Inarajan, and toured it. Making salt, boiling ocean water until they get salt crystals. Making coconut candy. Weaving coconut leaves into various items. Making a rope of tree fibers.

Returned and tried to locate the site of a concentration camp for Chamorros at Manengon near Yona, about which Jane had been reading a book, but couldn't find it. Impressive bamboo beside a river in here.

Visited a fruit farm, mostly a Japanese tourist trap.

Lunch at Talofof Beach Park.

Visited Latte Park. Latte are carved stone pillars, look something like mushrooms. Eight pillars here, lined up in fours. These are thought to have been building foundations in pre-Spanish Chamorro culture, but when Magellan arrived, nobody knew what they were. Seem to date from 500 A.D. and onward. Good article in Morgan, Prehistoric Architecture in Micronesia, see biblio. (pix)

Drove up Nimitz Hill, to Asan overlook, which takes the position that the Japanese, entrenched in the hillside, had when Americans invaded Asan Bay (where we picnicked two lunches).

Japanese caves on this site.

Returned to motel, for 6.15 a.m. flight the next day.

June 9, flew home. Jane had her "big birthday" (70 years old) twice!

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--Howe, K. R., Nature, Culture, and History: The "Knowing" of Oceania. Honolulu: University of Honolulu Press, 2000. Howe is in history, Massey University, Albany Campus, Auckland, New Zealand.

--Lobban, Christopher S., and Scheffer, Maria, Tropical Pacific Island Environments. Mangilao, Guam: University of Guam Press, 1997, 2001. ISBN 1-881629-05-8.

--Morgan, William N., Prehistoric Architecture in Micronesia. Austin: University of Texas, 1985. With a major chapter on latte.

--Myers, Robert F., Micronesian Reef Fishes. Guam: Coral Graphics, 1999. ISBN 0-9621564-4-2, soft cover. \$ 50.00. 0-9621564-5-2. Hardcover. Looks to be the major reference handbook on fishes. Hundreds of color photos.

--Stone, Benjamin C., The Flora of Guam: A Manual for the Identification of the Vascular Plants of the Island. Agaña: Guam: University of Guam, 1970. 659 pages. Manual is thirty years old, but still the main one in use.

--Vernon, J. E. N., Corals of the World. Townsville, Queensland: Australian Institute of Marine Science, 2000. 3 vols. 1,410 pages. \$ 175. 795 known species of extant reef corals treated for the first time in one publication. With excellent pictures of each. The major reference work. Reviewed in Science, 25 May, 2001, p. 1492.

--Vitousek, Peter M., Loope, Lloyd L., and Andersen, Henning, eds., Islands: Biodiversity and Ecosystem Function. Berlin: Springer-Verlag, 1995.

--Whistler, W. Arthur, Wayside Plants of the Islands: A Guide to the Lowland Flora of the Pacific Islands: including Hawai'i, Samoa, Tonga, Tahiti, Fiji, Guam, Belau. Honolulu: Isle Botanica, 1995. 202 pages. Ordered ILL. Excellent, lots of good color pix. Plant families are not as different from U.S. as African plants are.

--Witte, Astrid and Casey, Mahaney, Guam and Micronesia Fish and Critters. Bangkok, Thailand: Blue Kirio, 1996. Local handbook. No ISBN.

end Guam.

June 14-16. Templeton Conference at Haverford College. Great trees on campus, especially oaks. Especially Swamp Bur Oak. Massive trunk, broad crown, massive branches. Bur oak, Quercus macrocarpa, famous tree in Midwest, often landmarks. Large acorn, hence macrocarpa. Bur = presumably the conspicuous scales that adorn the cup margin, making it gray-fringed. White oak group. Two center sinuses of leaf reach nearly to midrib. Lightning bugs.

July 11, 01. Led a hike around the Pingree Park bottom for Jane Kneller and her NEH group on German Romanticism after Kant. Hi-lite was splendid view of a long-tailed weasel, in plain sight of twenty people. It went in a hole, 8-10 feet away, and kept poking its head back up, posed nicely for us, then went out on a rock and posed splendidly again. Then it ran 10-12 feet away and picked up a dead chipmunk and carried it back into its den, and disappeared. That seems to have been its concern that kept it coming back up and looking at us--no desire to pose! Textbook picture, brown, tan underside, long black-tipped tail. Prairies, open country, open woods, alpine, through most of the U.S.

July 16-20, 01. Backpacking trip to Mt. Zirkels, North Lake, with Phil Cafaro.

July 16, Monday. Left 7.30 a.m. Leisurely drive, with stops at Cameron Pass. Limping coyote in Poudre Canyon, 2 deer. 19 bighorn ewes, one kid, some miles west of the bighorn viewing area. Right at the roadside, and we watched them a while. Walden. Golden eagle, perched on fence right at roadside, great sight. Flew off with lots of white at base of tail.

Lunched at campground, Walton Creek, in Rabbit Ears Pass area. Blue grouse at roadside. Drove on to Steamboat Springs, inquired at Ranger Station, and then to Seedhouse Campground and pitched camp. Sage grouse and one chick en route. Explored the layout, drove up to Slavonia. Sorted out False = Indian Hellebore, Veratrum viride.

The Routt Divide Blowdown was in the early hours of October 25, 1997, very strong winds, in excess of 120 miles per hour, blew from the east over the Continental Divide. A path of wind almost five miles wide and thirty miles long flattened over four million trees. Sometimes blew over roots and all, sometimes snapped the trees part way up the trunk. Mostly spruce and fir. Rather patchy, with patches up to 4,000 acres. Forest services has maps of blowdown areas posted. We saw several of these areas from the road. Salvage in some areas outside, but not inside, the wilderness.

July 17, Tuesday. Left the big tent standing. Took off and on the trail from N. Lake Trailhead about 9.30. Some switchbacks after half mile or so on, and then a moderate climb. Some trilliums seen, in fruit, not flower. We were constantly passing Rhododendron albiflorum, but I didn't register what it was. Ate lunch beside a patch that must have covered an acre. Only Rhododendron in the Rockies. Weber puts it in Azaleastrum, as did Rydberg in 1900. Great displays of White Bog Orchids, Habenaria probably dilatata. Great Elephantella, Pedicularis groenlandica. Pipsissewa, Chimaphila umbellata. Bog laurel, Kalmia microphylla.

Reached camp at North Lake about 2.30. Great campsites in here. Used Phil's tent, and, later, his stove.

Hiked up the trail towards the divide some. Phil went on, and I came back and took a nap.

Lovely weather. Towards dark, Yellow-rumped warbler, nicely seen. Good fire after supper. Bugs not bad.

July 18, Wednesday. Up and on the trail to do the divide. Nice view of The Dome and Lost Ranger Peak going up. Hiked south toward Lost Ranger Peak. Passed Lost Ranger Trail, which comes in from west, and comes up Red Canyon. Clearly marked. Then climb up Lost Ranger Peak, trail is essentially on top but skirts east of the actual summit. Then on past on the more or less flat summit, then down to a saddle, then on to the junction with the Rainbow Lake Trail.

I was here twice before, first Aug 6-11, 1981, with Giles, via Rainbow Lake and Upper Slide Lakes. Second, from the west side with Giles from Gilpin Lake, Aug. 20-24, 1984. (Also at Rainbow Lake and Upper Slide, Aug. 9-12, 1982, but lots of snow, and failed to get to the divide.)

Lunched here. Then steady hike back. Lots of Alpine Bistort, Polygonum viviparum. A few Glacier Lilies, Erythronium grandiflorum, in bloom, most in fruit. Lots of Death Camas, Zigadenus elegans. Parsley, presumably Yellow Mountain Parsley, Pseudocymopterus montanus. Yarrow, Achillea millefolium. Orange Agoseris, Agoseris aurantiaca. Various Antennarias. Various Arnicas. Old Man of the Mountains, Hymenoxys grandiflora. Mertensia, Bluebells. Moss campion, Silene acaulis. King's Crown, Sedum roseum. Alpine Clover, Trifolium parryi. Polemonium. Eriogonum. Pygmy bitterroot, Lewisia pygmaea. Caltha, Marsh marigold. Snow buttercup, Ranunculus adoneus. Hundreds of acres of Sibbaldia, Sibbaldia procumbens. Snow willow, Salix nivalis. Lots of paintbrushes, Castilleja. A little monkeyflower, Mimulus tilingii. Lots of Pedicularis, Wood Betony, Pedicularis bracteosa. Lots of Parrot's beak, Pedicularis parryi (though some books call this Parry's Lousewort and reserve Parrot's Beak for another one). Whipple's Penstemon, Penstemon whippleanus. Some Veronicas.

Lovely day all round. I was exposed to the alpine longer and in better weather than I remember.

Deer in camp. Pine grosbeaks. A big of a shower, while we napped, then clearing. Another good fire. Fires are seldom permitted at subalpine sites, but here it is, probably something to do with the large number of blowdowns.

July 19, Thursday. Hiked back, but going in to Wolverine Lake. This is not a developed trail. No problem to follow, but a pickup trail and rough. Waded creek. At Wolverine Lake, two deer right at the lake, made it a Romantic scene.

Back to main trail for lunch, but big toe getting sore, so I hiked out slowly.

Alas, on return, the Jeep brakes would not work. So I came out in low gear, using 4WD low to creek down hills.

Back to the car camp. Snowshoe hare in camp after supper. Deer.

July 20. Pulled camp and crept into Steamboat, to put a master cylinder in the Jeep. Left Steamboat about 3.30 p.m. and drove home. About twenty miles of hiking. Never felt my left heel tendon, though I did feel my right knee some. But no problem.

July 27 - Aug. 4, Wycliffe College, Oxford.

July 29, Sunday. Went to Christ's Church for "sung Eucharist." Jane and I saw Winston Churchill at Christ's Church, Oxford, in July 1957, when he was coming out from a funeral. I have good

picture of him.

August 3, Friday. One day bus trip with the group there to Ely Cathedral and then to Cambridge. Walked around a bit at the Cavendish Laboratory, the old one, now a museum and some offices; the new labs are out of town. Here is where Watson and Crick deciphered DNA, also where the electron was found, and the neutron. James Clerk Maxwell taught and researched here. In the public perception, Cambridge is better at science, Oxford at the humanities. They agree that Oxford has many historians and humanists.

August 4-8, Highlands, NC.

August 4, Saturday, flew from Oxford to Charlotte, then Asheville, with little turnaround time in Charlotte, late plane. But made it.

August 5, Sunday. Spoke to Unitarian Church, Franklin, NC. transfer to Highlands and in upscale lodge, Kelsey and Hutchinson.

August 6, Monday. Lunch with Frederick Ferré, wife Barbara. Lecture, 7.30 p.m., Highlands Institute.

August 7, Tuesday, Symposium, 10.00 a.m. - 11.30 a.m.

Highlands area, something of a plateau, gets 100 inches of rain a year, more than the Smokies.

Wealthy town, upscale, golf courses, country clubs, and multimillion dollar homes carved into the woods and mountainsides.

Tuesday afternoon. Hike up Satulah Mountain, with Bob Zahner and wife Glenda. Also E. J. Tarbox. Zahner taught at University of Michigan and Clemson, in forestry, dendrology, forest ecology. She is botanist. His family once owned the former Double Cola. Satulah Mountain is the south end of the Cowee Range, an arc around the eastern rim of the Highlands Plateau. Upwards of 5,000 feet high.

This is a granite dome, a topographic formation common in the area, and there are special plants on the domes.

Whiteside Mountain is the most noted mountain in the area, from its cliff face, the white sides. Often seen, and on one side of the Country Club area, with homes and golf courses, in which clubhouse I ate several times. 4,930 feet high. Zahner gave me a book he wrote on Whiteside Mountain.

Solidago simularis ?, Granite Dome goldenrod. Not found in my manuals.

Robinia hartwigii, a locust. Shown 3 places in very western NC mountains in Radford, Atlas of the Vascular Flora of the Carolinas.

Houstonia linearifolis, Granite dome bluet. Not found in my manuals.

Juniperus communis v. depressens. The Rocky Mountain juniper, but here very disjunct, by up to a thousand miles. Radford, Atlas, shows it in only three locations in this area.

Diervilla lonicera. Bush honeysuckle. Radford, Atlas, shows it in four locations in western NC.

Krigia montana, Mountain dandelion. Radford, Atlas, shows in a dozen times in western NC.

Lots of chestnut, still coming up from stumps. A good deal of chinquapin, and some chinquapins in fruit. Now the chestnut blight is beginning to affect chinquapins. White oaks.

Lots of Gaylussacia sp. Lots of highbush blueberries, Vaccinium, in fruit.

Goodyera repens, Rattlesnake plantain, an orchid. In great bloom and one particularly nice patch. Hadn't seen it in bloom like this for years.

Lots of Clethra acuminata, Cinnamon Clethra, Mountain pepperbush (Clethraceae, White Alder family) in good bloom. Three ravens overhead and noisy and acrobatic at the summit.

Walked back on a side trail through a rhododendron forest, a "laurel hell," with great trunks, twisted and impassable except for the trail. Great aesthetics.

Returned and went with E. J. Tarbox to see a huge tulip poplar, the Bob Padgett tree, named for a forest ranger who helped to save it. 20 feet in circumference.

Lots of arbor vitae planted in town and doing nicely. Arbor vitae is Thuja, in Cypress family, Cupressaceae, as is Juniperus, also Chamaecypraris, white cedar. There is only one native to eastern U.S., Thuja occidentalis, in the northeast, not here, which I found in Maine. One in Pacific Northwest; several in Asia. Often yellowish, flat sprays. Hundreds of horticultural varieties.

There are two hemlocks here. Eastern hemlock, Tsuga canadensis, the usual one, and Carolina hemlock, Tsuga caroliniana, local from Virginia to Georgia. I had forgotten this one. Not seen on the hike, but planted in town. The leaves are not so flatly arranged around the stem, come out more nearly all around. Also cones bigger.

Drove by the Highlands Biological Station on return. About thirty colleges cooperate in running it, though principally University of North Carolina.

Returned to lodge, napped and woke in hard pouring down rain. Rained cats and dogs for an hour and a half. Went out and sat on the porch and enjoyed it, then E. J. Tarbox picked me up, and went to restaurant, where we ate on a porch, veranda, lakeside, with pouring down rain throughout a fine meal, filet mignon. Nice to be wealthy in North Carolina!

August 8, Wednesday. Flew home.

Sept. 8, Saturday. Aborted backpacking trip to Mirror Lake (Mummy Creek campsite). Lovely weather previous days, but cold and snow set in Thursday night. I was to have gone in Friday, and postponed it a day. Friday cleared and I thought I had it. But Friday night started raining and rained here all night, and, as it turned out 5-6 inches of snow on Long Draw Road.

Saturday, I left in rain and by Arrowhead Lodge there was snow on the ground, and increasing as I went up. But the Long Draw road, though snow covered was no problem, as the snow was soft. Peregrine falcon on Highway 14, perched roadside in tree. Passed Corral Park and went on to La Poudre Pass. Lots of bowhunters and muzzle-loaders in here, all snowed up.

Hiked in snow into Little Yellowstone area, down the ditch about a mile and then down the trail, in

5 inches of snow, with snow/graupel falling off and on. Two mule deer. Snow lovely on the trees. Found enough clear space to eat on the trail, and hiked on to overlooks of Little Yellowstone. Returned, red-tail hawk perched and screaming at me. A dozen white-crowned sparrows. Chickadees.

Back at Jeep about 3.00 p.m. Two moose at Trap Lake on way out. Really no sun until I got back down to about Sportsman's Lodge, then had sun off an on. But raining when I got back to Ft. Collins.

Sept. 11. World Trade Center twin towers demolished by terrorist attack. Great tragedy and re-set the national mood all fall--if not forever.

Sept. 14-16. Backpacking up N. Fork Big Thompson, day hike to Stormy Peaks. I was supposed to be speaking at Society of American Foresters Denver Convention, twice, once on SAF Land Ethic Revisited, once on a foresters and consumption panel. But the Convention aborted due to the terrorist attack on the World Trade Building, two towers, also the Pentagon, and air traffic has been grounded all week. So I took off for the mountains, especially since my planned backpack the week before to Mirror Lake aborted due to early snowstorm.

Left home 8.00 or so, and on trail maybe 9.30. Nice day, partly cloudy. There are nine numbered campsites along the USFS Comanche Peak Wilderness section, before you get to the National Park Boundary. I stayed in number 9, nice site, got there by lunch. This is not all that far in maybe 3.5 miles from trailhead, and not far past Deserted Village. Lazy afternoon, nap, local hike. Nice fall colors. Rose hips seem especially well developed and attractive bright red, with red rose leaves. Squirrels seem fussier than usual. Some threat of rain, and good rain after I was in the tent. But cozy.

Saturday. Up and on trail by 8.20 and long day hiking to Stormy Peaks. Took longer than I thought. It is quite a ways up to the Stormy Peaks trail turnoff, then steady climb. Bandtailed pigeons at Halfway campsite. Bog birch, Betula glandulosa. Reached the S. Stormy Peaks campsite, where Giles and I camped. Then went on a ways toward the Pass, maybe halfway and in good sight of it, but turned around in graupel storm, also running out of time. Lunched at the campsite, then made my way back down. Reached campsite about 5.20. Gone nine hours, about 11 miles.

Sunday. Up at 7.30 clear day, but then clouding. Off at 10.00, leisurely. Viburnum edule, nice leaf colors, nice berries. One snake in lower part of trail. Out about 12.00 and lunch at the car. Roundtrip 18 miles, or a little over. I did North Fork previously Aug. 24-26, 1972, fighting snow; Aug. 23-28, 1987, with Giles on his 30 mile backpacking badge; June 3-5, 1994, with big snowfield before Lost Lake; Aug. 9-11, 1999, and sleeping in the Pocket Hotel.

Sept. 29, 2001. Field trip to Pawnee Buttes with graduate students. Left 7.30 a.m., and picked up Yang Tongjin, newly arrived from China. Met with Cafaro and others at north end of oval. Killed with a rock a squirrel whose back had been broken by a car.

Drove to Ault, then up the diagonal and shortly north to a study site of Rod Adams and Amy Yackel, his wife. She puts bands and miniature radio transmitters on lark buntings last summer, transmitters weigh one gram, transmit about a quarter of mile. Testing their survival rate. Cost about \$ 200 each, they had 80 transmitters, put on about 65. Discovered that the male takes have the fledglings, the female the other half. Also to a prairie dog colony and found two burrowing owls,

nically seen in scope. Also about a dozen antelope. Hunter had killed one roadside.

Drove on toward Pawnee. Excellent perched ferruginous hawk en route, watched it in scope half an hour. Quite white front, black back, yellow feet. This is the largest of the hawks, just under eagle size. Most birds in this area show a V against the white belly which is the colored leg feathers folded against body. (pix, Clark, p. 101) A few more antelope. Gutierrezia sarothrae, Snakeweed, like a low rabbit brush, still blooming. Four-winged saltbush, Atriplex canescens.

Reached Pawnee Buttes and lunched there. Then hiked in between buttes. There is a trail that goes up and over the ridge, more interesting than the usual trail. Rattlesnake seen in a skunkbush (Rhus trilobata), never entirely seen but watched parts of it for a couple minutes. Good eagle in the sky; I would have called it a golden, but others said it was a bald eagle (not expected in this habitat). Rock wren. Ceratooides lanata (earlier Eurotia), winterfat. Looks like a low sage brush. Returned.

Several prairie falcons on drive home. Good day.

Oct. 13, 01. Bierstadt Lake, with Colorado Native Plant Society, in search of Quillwort, Isoetes. Left 7.00 a.m., with ripping winds outside, wondering if the trip would make. Picked up Dr. Yang Tongjin and went to Larimer Co. Community College and found Annette Miller, leader, works in National Seed Storage Laboratory facility. Drove to Bierstadt, by now in snow flurry, and joining 6-8 others, including Janet Wingate, grass expert from Denver. Hiked briskly up Bierstadt trail in constant snow flurry and an inch or so under foot.

Reached the lake and they knew right where it was, though iced over. Looks like a grass. In the fall, the leaves break loose and blow to the shore on the far side of the wind, and mat up. Stay green. The leaf rotated in the fingers is round. Also there are horizontal septa visible from the outside. Each leaf is really a sporophyll, bearing a sporangium at the base. Some are megaspores, visible under lens, about 40 in a sporangium. These will develop minute gametophytes, with archaegonia, and eggs. These leaves are tan at base, spores dry out quite white. Some are microspores, hundreds of thousands of them, black. These will develop minute gametophytes, with antheridia. Annette Miller had carried up a binocular, and set it up in the wind and snow, to look at the spores. I brought some home and confirmed it. Isoetes setacea ssp. muricata. Though authors have used various names. See notes.

Returned and went to Sprague Lake, and also found it there. Lunched there. Drove back, with elk in the woods, close to the road, including 30 cows and 2-3 good bulls. Some good bugles, seen as well as heard. The elk were presumably in the woods on a windy day. None seen out in open.

Drove home. Never saw the high mountains.

October 27, 01. Mitchell Lake from Brainard Lake. Alone. Left 7.20 good day, still mild (at least in town). Reached below Brainard Lake 9.15 to find the road blocked off 2 miles down. Deer en route. Twenty cars parked at the block off. So I had to foot it up on the blacktop to the summer trailhead, which took an hour. Windy by now and had to keep moving to stay warm. Reached Mitchell Lake trailhead, and walked on snowpacked trail to the lake, 8-10 inches of snow. O.K. but not particularly easy.

Saw only three people on the trail, and not sure where everybody was. Only one was ahead of me when I stopped. Lunched at the lake trying to find a place to stay out of the wind. Left lake at 12.00 for return, uneventful. Stopped off here and there on the way back. Lovely skyline at Brainard. Mt.

Audubon immediately to the north, and up the canyon above Blue Lake Mt. Toll. Saw no birds. Napped when I got back, then drove home, with all the hike I wanted (6 miles).

Mildest October on record in Colorado.

Nov. 16. Shonny passed her pistol shooting routine at the Police Academy, which she had seemed to be unable to do and had us worried she might fail the Academy. She had to score 70% (147 out of 210) two out of three times, and scored two in the 150's.

Nov. 23. Ran 5 miles to celebrate my 69th birthday. No problems. Been running three miles pretty much all year, always after a careful stretch routine. I think this is the first time I have run 5 miles since November 8, 1996, or, certainly, since my prolonged Achilles heel troubles, left heel, over the last couple years.

Dec. 15, 01. Acme Creek past Cherokee Park, Sand Creek Pass road, toward Eaton Reservoir. Alone. Left before 8.00 and leisurely drive up on rather corduroy road. Route 80C (the Cherokee Park Road, continuing to Sand Creek Pass, becomes a Level 6 road (no snow removal) past the junction with Route 59 headed north, so I wasn't sure how far I would make it. But I did, with little trouble. A snowstorm was predicted for the afternoon so I was a bit apprehensive about the return.

Reached Acme Creek (Route 219 and so marked at turnoff, also marked 313 on maps). Hiked in 5-7 inches of snow, boots, no snowshoes, from about 10.00 until 1.30 or so. No wind to speak of and decent but wintry. Sunny in later morning and I found a sunny spot for picnic lunch, marginally comfortable. Hiked out, and by the time I was back at car, light snow flurries. Snow flurries, often vigorous, the first half of the way back. Snow in town shortly after I got home.

Saw four moose on way out, up on the hill, climbing the big hill where the road runs n.e. after it leaves Sheep Creek (where there is a campsite and toilets) ( sections 16 and 17). Three of them up the hill, one bull there, presumably a cow and a calf (a Colorado Division of Wildlife man there showed me where they were). After he left and I was watching them, a fourth, bull moose stepped out on the road, not 20 yards away. I even backed off a bit, lest he decide I was too close. He did not have big antlers, but did have very long gangly legs, noticeably white. Conspicuous "bell" or dewlap seen, and this is on both sexes. Only males have antlers, shed annually.

Try some hikes in the State Wildlife areas, particularly just west of Trails End (only a ranch at Trails End, not even identifying markers here) Trails from the campsite area (sec. 21) might be good. In the spring, not fall during hunting season.

end 2001

2002

January 12, 2002. To RMNP with Jane, Yang Tongjin and his wife, Jiang Ya, and 14 year old daughter, Ye (pronounced Yeah). Drove to Bear Lake. Lovely mountains with blue sky overhead but some clouds here and there, in and out the mountain peaks, just enough to make it ethereal. Walked on snow to Nymph Lake, trail somewhat crowded. Returned, lunched at Sprague Lake and walked around a bit on snowshoes.

Returned to Park Headquarters for the introductory film, some elk on the roadside when returning. Then a big group at the Bear Lake intersection, and drove over Deer Ridge, down to Horseshoe Park, and up Fall River Road. Majestic elk right by road at a parking area (several pix). Some elk at a distance in Horseshoe Park. Nice day.

January 26. Drove to Denver and bought Jeep 2001 Grand Cherokee Laredo. Spent a couple Saturdays putting in a deck in the rear for emergency gear, transferring gear and resorting for the new vehicle.

February 16. Sold the 1986 Jeep, had it ten years. Good car.

February 23. Owl prowl, with Nick Komar, Audubon Society trip. Not very successful, though I had hoped to hear a boreal owl. Nick Komar is good birder, knows owls, is professional researcher with Control Disease Center on West Nile virus, which gets into chickens from mosquitoes and thence into people, some have died in New Jersey.

Met at new Colorado Visitor Center, I-25 and Prospect St. Too many people, about forty. Drive in long carpool up Rist Canyon, looking for pygmy owls, without success. Drove to Wellington area to walk around private property, much wooded with open areas, reported for long-eared and short-eared owls, without success. Drove on Nunn Road, and found good great-horned owl, perched, and watched half an hour.

There was a forest fire north of Grey Rock, evident in much smoke rising from that area all afternoon, and by now nearly dark, you could see quite extensive fires and flames--more than I saw in Montana summer 2000. Seem to have been started by an individual and got away from him.

Drove to park area in Andersonville near Poudre River and tried to call a screech owl, without success. Then back to Visitor Center, and break for supper.

Met at Ted's Place, 8.45 p.m., now reduced in number to about a dozen, in four cars. Drove up Poudre Canyon, hoping to hear boreal owls. First stop at Long Draw parking area, then Joe Wright Reservoir and several others, Zimmerman Lake, Cameron Pass, and Nokhu

Crags overlook. All without success. Surprisingly mild, for the pass area, and not all that windy. Some snow flurries. Good three-quarters moon, and rather scenic in the moonlight on the snow, especially the Crags. Home at 2.00 p.m.

Rode with a woman and her sister; she lives in Masonville area, and is keen on outdoors.

There are three snowy owls, frequently seen this winter in Weld County, Crow Valley area somewhere.

Some below zero weather in here.

March 14-19, 2002. Wolves in Yellowstone, with Jim Halfpenny. Took Yang Tongjin, who is here studying with me this year on a Ford Foundation grant. He is Institute of Philosophy, Chinese Academy of Social Sciences, Beijing, and translated my Environmental Ethics into Chinese in P.R. China.

March 14, Thursday. Up at a 5.00 a.m. to discover that I-25 is shut with snowstorm north of Cheyenne, to Chugwater. I fretted it out all morning wondering what would happen. Various calls to Wyoming Dept. of Highways, and on their website I-25 still closed. At 11.30 I left anyway, thinking they would have to open it in the afternoon sometime. Picked up Dr. Yang. Drove north. Reached Cheyenne and I-25 still closed. But I-80, Cheyenne to Laramie, likewise closed, had just opened. Attendant at Visitor Center was little help, and seemed to care less about getting any predictions. Drove north about ten miles and waited in line, perhaps an hour. Opened about 2.45 p.m., and not bad to Chugwater, a little icy here and there.

North of Chugwater I-25 had never been closed, but often the highway there was in worse shape. Pit stop at Douglas and made motel reservation for Buffalo. Reached Casper, gassed up, and drove on to Buffalo, last hour and a quarter in the dark and on a somewhat icy road. Decent Super 8 at Buffalo. Supper in the room. Dr. Yang had prepared all the food--fried egg sandwich, with ham and applesauce, which he calls apple juice. A salad, potato salad, but with apples mixed in, and ham.

March 15, Friday. Up at 5.15 a.m. and motel breakfast in nearby Ice Cream Parlor. Quite cold and 12-14 inches of snow here. Drove north on icy road at first. and, reaching Montana, the snow disappeared to Billings. 50 antelope. Pretty drive to Livingston, reached 11.30 a.m.

Drove to Yellowstone. In Paradise Valley, golden eagle, seen nicely flying. Bald eagle, adult, perched over the river, nicely seen. Reached park headquarters and lunch in car. Another fried egg and applesauce sandwich.

Rangers were herding buffalo back into the park. First group of about two dozen, herded by rangers on horseback and by a patrol car. Then a second group also about two dozen, on the road and some trouble to get by.

Reached Tower, then, approaching Lamar Ranch, there was a black wolf on a kill site, 50 yards from road. Coyote nearby waiting. Watched the wolf forty minutes, lots of pix, and not that far off. Excellent. Wolf eventually left.

Moved in to cabin 10. Class in evening.

Pointing verbally. Identify something absolute in the scene and use it as center of a clock. You

can specify degrees of distance from the center of the clock. One finger at arms length is about one degree for most people.

Since the wolves were introduced about 900 chases have been observed, about 200 kills. There are about 250 wolves in the park now.

Saturday, March 16. Up at 5.00 a.m., off at 6.00 a.m. -4° and cold. Drove up toward Soda Butte to the "traditional" den site, used several years. But nothing seen.

Drove down to Tower, then to Hell Roaring, where wolves had been seen in distance several days. Eventually saw 11 wolves at much distance, though evidently wolves. Clear and cold. This is part of the Druid pack. The Druid Pack is behaving somewhat unusually. Various subgroups are forming and reforming within it, and the members shift. There are 38 wolves in the pack, and some people last fall saw all 38 at once. Jim Halfpenny once saw 36.

Mid-afternoon. We went out to examine the kill site and to make casts. Snow was deep and there was lots of breaking through to above knee level, difficult walking, and falling over. Soon it was snowing relatively hard and more difficult.

Continued snowing on return and we did not go out that evening, although toward evening it did clear considerably.

Evening. class. There is an article claiming that the Canadian wolves are red wolves. Canadian Journal of Zoology, January 2002.

March 17, Sunday. Up and out at 6.00 a.m. -6° and cold, though, mercifully, not much wind. Drove up to den site and rather soon spotted one black wolf in early dawn, sitting out in the open from the den area back in the aspen trees. Other observers down the road said they had three others visible.

We returned half a mile down the road and there were four wolves by now, though none black, so this was five wolves total. The wolves were bedded down, and in a few minutes got up and howled. Great howling, watched through the scope and heard simultaneously. Second round of howling twenty minutes later. This must be the ultimate experience of the wild--watching and hearing wolves howl on the snow in subzero weather.

Then the four wolves walked slabsiding the hill north of the road, gradually making their way toward the Lamar Ranch. Often they would just bed down for twenty minutes or more. We watched them, moving progressively down the road, for an hour and a half. Eventually people were freezing up and we went back to the Ranch, but by that time some could be seen, though barely on the skyline, from the Ranch. There they bedded down and did not move for the rest of the day.

Class at the Ranch.

Maybe 15 coyotes seen during the whole trip.

Maybe 70 bison. Maybe 100 elk, seldom in groups of more than a dozen. Elk seemed fewer in number than usual. No bighorns seen, though some others had seen a couple in the distance. Not all that much bird activity, though some ravens seen. Some magpies. A few Clark's nutcrackers.



We finished and got off at 2.30. Clear at first, then snowy towards Billings. Night in Billings. Sleep Inn, though I was less satisfied than usual here. Very skimpy breakfast provided. Red Roof Inn is nearby, try that.

March 18. Monday. Up at 5.15 a.m. and off at 6.40. First few hours some snow on the Interstate 90 and 25, though always one lane clear. After that dry road the rest of the way. Reached Ft. Collins, 3.00 p.m.

Returned home to find that the president of Davidson had called, and called him back Tuesday morning, to receive Davidson's invitation to confer on me an honorary doctorate.

April 3, 02. Leaving early a.m. for Texas on the airport limo, a red fox ran across the road about at Sylvia's house around the corner.

April 3-9, 02. In Texas, first at Texas A&M, then at Denton, University of North Texas. At Texas A&M, Texas bluebonnets in bloom.

Friday, to Dallas/Fort worth, and Denton. Out Saturday to a Fossil Track State Park and a Fossil Rim Wildlife Center. High rains had flooded most of the visible footprints, in a creek bed, though there was one good three toed dinosaur that I could see reasonably well. Not all that much out in flora, surprisingly.

The "wildlife center" is a game park. Drove some 9 miles slowly with various exotic wildlife. Saw:

Addox (Addox nasomcculatus hippograginae) from the Sahara, N. Africa, quite endangered.

Aoudad, also Audad. pronounced Ou (as in Ouch) dad. (Ammotragus lervia). Barbary sheep. Very handsome animal with long mane on the neck. Thought to be the chamois of the Old Testament. Frequent and seen close up (asking for handouts).

Blackbuck (Antilope cervicapra). From India, and now more numerous in Texas than India. Endangered in India, but there are some good national preserves.

Eland (Taurotragus oryx). Largest of Africa's antelopes.

Emu (Dromaius novaehollandiae). Australia.

Ostrich (Struthio camelus). Africa.

European red deer (Cervus elaphis). Same as elk.

Fallow deer (Dama dama). Mediterranean.

Gemsbok (Oryx gazella). Southern Africa.

Grant's zebra (Equus burchelli bohmi). Africa.

Reticulated giraffe (Giraffa camelopardalis reticulada). Africa

Scimitar-horned oryx (Oryx dammah). Northern Africa.

Sika deer (*Cervus nippon*). Asia, dark deer.

Southern white rhinoceros (*Ceratotherium simum simum*).

Thomson's gazelle (*Gazella thomsoni*). Africa.

Wildebeest (*Connochaetes taurinus*). Africa.

Rained furiously all day Sunday, as hard as I have ever seen it (while I graded papers). Many mockingbirds, some cardinals.

April 20, 2002. Oldsquaw duck at Environmental Learning Center. Phil Cafaro had found out somehow it was there. Quite nicely seen on the big pond to the right as you enter. Nearly filled the screen in the scope. Male, a bit mottled, but all the field marks were right. Spectacular tail. This is an arctic sea duck that doesn't belong here. I saw a pair at Rawhide, Dec. 26, 1993. "Long-tailed duck" is now politically correct, and what the British have always called them. The males courting the females are noisy; they sound like chattering old squaws. Cold day, spitting snow/rain, after some quite warm weather in previous days.

April 27, 02. Crow Valley, alone. Cloudy day, though not cold. Somewhat windy in middle of day. 2 antelope. Not much in way of migrants at Crow valley. Two weeks too early. Lots of doves, blue jays, robins, meadowlarks. Starlings, grackles. Wren. Shrike, presumably loggerhead. Downy woodpecker. Cottontail. One yellow-rumped warbler seen in Crow Valley, but 6-8 nice ones seen later north on the road (where the owl's nest can no longer be found). Nice Swainson's hawk. Red fox killed roadside.

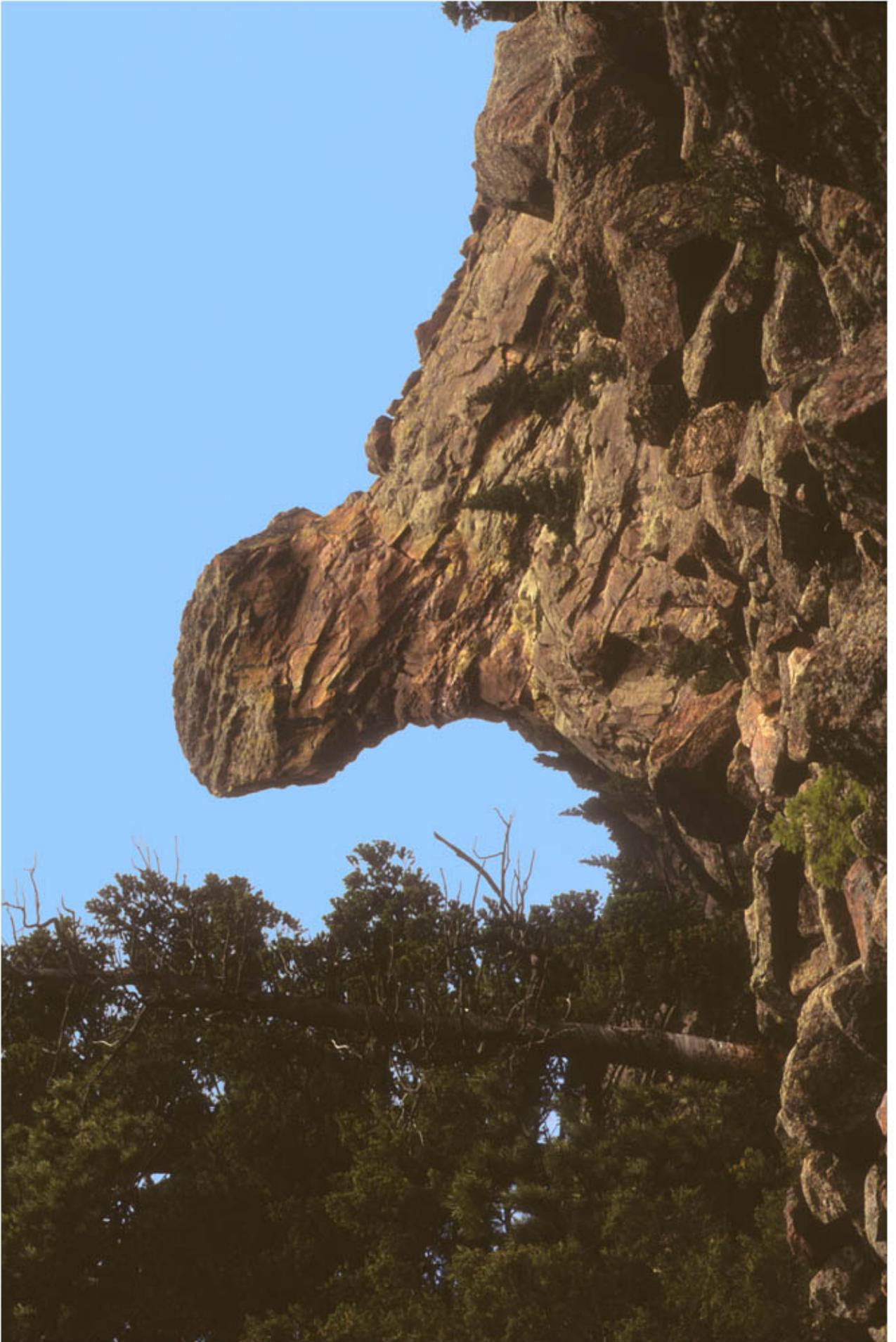
Drove back slowly over the dirt road (Route 96). Lots of horned larks, meadowlarks. Unidentified sparrows. Killdeer. One bull snake near edge of the road, just stayed there as I drove by, then backed up and watched it, got out--it being so still I wondered if it was alive. But it slithered quite gracefully off into the grass. 3 1/2 feet long.

Drove to Nunn and back on Nunn Road to Wellington, now paved, and less interesting. At the ponds, shoveler, cinnamon teal, Canada geese, yellow headed blackbirds, scaup, buffleheads, gadwall, avocet, and a couple more I couldn't make out.

May 4, Saturday. Shadow Canyon below Boulder, the Matron, the Maiden, Devil's Thumb. Spent the day figuring them out. Drove to Boulder and then to Superior, then back to Marshall, taking time to scout the skyline. A little above Superior you see the view in Richard Rossiter, Rock Climbing the Flatirons, p. 30). Continued, City of Boulder Parks has good trailhead, both sides of the road, at a Boulder Creek crossing.

Hiked up Towhee Trail, with towhees singing and 3-4 sighted. Reached a place where the Homestead Trail joins (which I took on the way back), and continued a bit until the Towhee trail joins the Mesa Trail, which is here an old road now converted to a broad path. The Matron is prominent on the south side of the canyon and hard to miss. (pix).

The road continues to a cabin where the road stops. Here the Shadow Canyon trail continues up, becoming a scramble. Here also the Mesa Trail continues back toward Boulder. Climbed the Shadow Canyon trail expecting to find the Maiden, which, it turns out is only visible from the other side. Eventually reached a spot where I could see Jamcrack Spire and the Tower of the Moon (just as in Rossiter, p. 25). More climb and good views of Devil's Thumb, though through



the trees, never a really open view (pix). Lunched and returned.

Took the Mesa Trail around to the other side, and after half an hour's walk I could see the Maiden quite well, with several climbers on it. (pix). Returned and walked the Homestead Trail out.

Two Pasqueflowers at first on the Mesa Trail not far from where I was spotting the Maiden. Then on Homestead Trail on the way out a great group of about 75 in good flower, though a few had gone to seed. Lots of Holly-grape (oregon grape, Mahonia repens), as much as I recall seeing. Good Spring-beauty, Claytonia, lots of Plum, Prunus americana, in fine bloom. Some Sand Lily, Leucocrinum. Some Bluebells, Mertensia. Lots of ravens.

Devil's Thumb, on the skyline, and the Maiden, lower with other rocks behind it, can be well seen from the Parking Lot south of the road. Note that the Maiden has a vertical tan bar in the center of it (highlighted in Rossiter, p. 36), which can be seen from some distance. Good day.

Marshall was a coal mining region, with some tough fights between operators and miners. Mining stopped after World War I. Some fires continue to burn underground since those days, and have now burned 100 years. Joanna Sampson, Walking through History on Marshall Mesa, City of Boulder Open Space Department, pamphlet, 1995.

May 7, 02. Trail Ridge opened, earliest in its history, since 1932, the year I was born!

May 9. Western tanager on campus in spruce toward the oval. Male in full color. Lovely.

May 13, 2002. Conjunction of planets in the Western sky, and thin crescent new moon. I had been trying to see the conjunction for ten days, but couldn't get a clear sky on an available night, though we saw some of this at Cleon Kimberling's home April 28. I saw it over the Moby gym field, troubled some by cars, though the students have gone (graduation past weekend), and this is a quiet time there.

Mercury is just north of the new moon, almost setting at 8.45 p.m. Needed binoculars and scope really to see it. Saturn and Mars between moon and Venus, Venus dominating the evening sky. With scope I could see the rings of Saturn well, wide open rings. Venus is said to be only slightly out of round, but was so bright I couldn't see that. Jupiter higher in the sky, and I could see in scope well one of the Galilean moons of Jupiter. "Finest observable massing of the five bright planets in almost 20 years." Sky and Telescope, May, 2002.

May 16-May 24, 2002, Trip to Davidson, to receive honorary degree, and to Staunton, to buy tombstone. Coronated and put one foot in the grave on the same trip.

May 23, Thursday. Climbed Jump Mountain. Up at 5.45 and off from the motel at 7.10. Cloudless day. Made good time to Lexington and the Pass, and Jane put me out on trail at 8.30 a.m. She took off to Lexington. The small sign here says Round Knob Trail to Viewing Rock, but, alas, this is not the trail I should have taken. Hiked it an hour; it sorta seemed to go right, but then came down and back toward Scout Camp.

But then I did come to a clear junction, abundantly marked, one trail going to Jump Rock (as it is here much called) by way of Little Peak Trail (which is really Little North Mountain), the other trail (which I was now coming down) marked Jump Rock by way of Viewing Rock. I was despairing of making the summit, as I had told Jane I would be back by 12.30 or 1.00 and had



lost an hour. Nevertheless I took off on the Little Mountain Trail as steady as I could manage.

Decent and easy trail a half mile or so, climbing, and you reach the junction with the Chambers Ridge Trail, here marked Little Mountain Trail, and took it for steady hard climb. One place was a good scramble over rocks to get up. Good owl flushed and perched nearby, presumably a barred owl. Saw it pretty well, not that far away, without binoculars. Laurel in here is in good bloom. Didn't have time to botanize. Lots of oaks, huckleberries, pines, but not white pine. Chestnut sided warbler. Ovenbird. Pewee. Lots of Yellow Star Grass, Hypoxis hirsuta, I first keyed this May 14, 1962. Lots of bluets, Hedyotis caerulea = Houstonia caerulea. First keyed this April 16, 1962, both plants forty years ago.

Reached the top of Little Mountain, marked with small sign, including elevation 3,070, which is shown on topo. Jump is a spur off this, now becoming visible. Level to gentle climb long the top a quarter mile, then a big, very steep descent to a saddle between Little North Mountain and Jump. Then a climb up Jump, took 45 minutes from Little North Mountain. Reached Jump Rock and ate candy bar. Discovered I had lost my water. I was carrying it in rain jacket only under an arm. Buzzards soaring near the rock. Long linear Little North Mountain is evident trending northwest from Jump. Lovely day. Jump was the mountain of my infant years, and today I climbed it, pushing seventy years of age.

Returned, flushed a deer with a big snort not far down from Jump Rock. Back to the saddle, then managed the climb up the steep trail back to Little North Mountain. Found the water bottle (a recycled Coke bottle) near the top. Steady descent, making as much time as I could without falling. Got back out at a different trailhead, the one I should have used, which is marked with quite small signs, facing the wrong way, Little Peak Trail to Viewing and Jump Rock. To Goshen Pass. (The Hunter's Trail to Goshen Pass is marked up this trail a quarter mile). But I didn't know then whether the trailhead where Jane was to meet me was up road or down toward dam, so I stewed around a bit. But in twenty minutes she came up the road in the car. We ate lunch on the trunk of the car in good shade over the road right there.

Made it pretty well, though at this pace it was all I wanted. Broke the skin on one heel. Using my old Goretex boots, which leak badly, but they do fold down small in the suitcase, and this was a dry day.

Headed back thru the Pass and to Lexington and Richmond. Flew home to Colorado next day, upgraded to first class all the way!

June 9, 02. Hike up Flattop Mountain with Giles. First hike with Giles in many years. Lovely day. Off at 7.00 a.m., and on the trail about 8.45. Trail is 4.4 miles from turnoff around the lake, or 4.5 miles from car. Steady climb went o.k. Some snow to walk over in the woods here and there, and a couple stretches maybe 50 yards. Reached timberline, but there is still half the trail to do, 2 miles or more. Giles complained of a pulled mahstring and eventually sat it out, while I went on the last half mile to the flat top summit. A couple places on snow, again maybe 50 yards. Lunched there about 12.00. Slow descent, watching my feet. I was wearing new boots (the Eastern Mountain Sports, size 13). Out about 3.30 p.m.

Mountain Dryad, Dryas octapetala, Alpine Primrose, Primula angustifolia, Snow Buttercup, Ranunculus adoneus. Nice wren seen close up on return, near the lake.

June 15-24, 02. Huntington, WV, Columbus, Ohio, and Cranberry Glades, WV.

June 15, flew to Huntington,

June 17, drove to Columbus, Ohio.

June 18, received award at Presbyterian Church General Assembly. Returned to Huntington.

June 21, Friday. Left Huntington 10.00 a.m., and drove to Hawk's Nest State Park, overlooking New River Gorge. Julia and Gray in their car. Picnic there. Walked 150 yards to overlook. Trailing arbutus.

June 22, Saturday. The four of us hiked the Cow Pasture Trail, which runs the perimeter of the Cranberry Botanical Area. Breakfast at the C&S Restaurant, picked up lunch stuff at a supermarket, and off. On the trail at the Cranberry boardwalk parking lot, 10.00 a.m. Steady hike often on old railroad beds, though sometimes on old roads or trails. Hemlock forests, maples, beech, birch, later buckeyes. Virtually no pines.

Highlight of the hike was a sow bear with a cub. Jane heard the cub first, climbing a tree, and then I saw the sow, 75 feet away, by that time running toward the tree the cub was climbing. I saw her well sideways, and then she ran off in the woods. We backed up a bit and Jane found the cub still up the tree, a small cub of the year. Cub a memorabel sight, small black club clinging with all fours to a birch tree, black against the silver bark and hanging on hard. The cub soon climbed down the tree and ran off after mother.

Later we saw a single bear 150 feet away, running back into the forest. Seen, but not seen so well. Gray and Julia saw a turkey crossing the road on the way over. Spectacular Running Cedar, Lycopodium complanatum, and some Lycopodium annotinum, Clubmoss.

Hike was all we wanted, last part of it on a gravel road; we should have put a car down the road. Ranger at Visitor Center had said 6 miles, but the guide (de Hart, Hiking the Mountain State, says 6.7 miles, plus .9 mile after the upper car park for 7.8 miles, so it is not surprising we had had enough.

Lunched and Jane and I went on a guided tour of the boardwalk. Two deer, alarmed and fleeing across the open bog. Lovely running even on the big and impressively jumped the boardwalk, a long jump.

Marsh marigold, Caltha palustris, Viburnum, Viburnum cassinoides, Rose pogonia Pogonia ophioglossoides (an orchid), also called Snake mouthed orchid, Grass-pink orchid, Calopogon pulchellus, Pitcher plant, Sarracenia purpurea, (these are not native, introduced here half a century back), Sundew, Drosera rotundifolia, Bog Rosemary, Andromeda glaucophylla, Skunk cabbage

Two cranberries, mostly the small-leaved cranberry (Vaccinium oxycoccus), also large-leaved cranberry (Vaccinium macrocarpum), False Hellebore, Veratrum viride, Spicebush, Lindera benzoin, Nettle, Urtica, Alder, Alnus rugosa, Canada Mayflower, Maianthemum canadense, Mayapple, Podophyllum peltatum.

Cinnamon fern, Osmunda cinnamomea, Elder, Sambucus sp., Hay-scented fern, Dennstaedtia punctiloba, Meadow rue, Thalictrum polygamum, Mountain laurel, Kalmia latifolia, in good flower and often lovely. Red spruce, Picea rubens, Rhododendron, Rhododendron maximum, Trillium, Trillium, though not in bloom. Wild Sarsaparilla, Aralia nudicaulis, Wood Sorrel, Oxalis montana, Yellow Birch, Betula alleghaniensis. Lots of Sphagnum. Yew, Taxus canadensis, is here, though I did not identify it.

Visited Pearl Buck's home, birthplace, though she soon was returned to China with her missionary parents, and spent forty years of her life in China. Only woman ever to have won both a Pulitzer prize and the Nobel Prize for literature, for her The Good Earth.

June 23, Sunday. Breakfast in room and off at 8.00 a.m. Deer roadside. Hiked Falls of Hills Creek, three falls and steep descent on well-built stairs wood and metal. Nice falls, especially the middle and lower. Lovely Turk's Cap lilies, Lilium superbum, five or six splendid plants seen.

Then to Visitor Center. Round leaf orchid (=Pan leaf orchid). Platanthera orbiculata, seen in woods near the Visitor Center, in full bloom. Then drove the Scenic Highway north and around thru Marlinton. Nice drive. Then headed to Lewisburg and I-64, then to Beckley for lunch at a Travel Plaza, Tamarisk. Back in Huntington about 6.00 p.m.

I was in Cranberry Glades and Backcountry, July 13-15, 1982, with Giles, twenty years ago. We camped at Summit Lake Campground, and I then also did the three Falls of Hills Creek.

Gray fox came by the window in Julia's dinette area while we were eating supper.

Main roadside plant is Crown-vetch, Coronilla varia. Like a vetch but with a clover-like head at top. From Europe, planted along roadside banks. All over the banks around Julia's and elsewhere.

June 24, Monday. Flew home. Jane came Tuesday.

July 7, 02. Sunday. Drive to RMNP with Jennings and Harriet Bunch, and Jane. Drove up Trail Ridge Road and had picnic lunch at Lare Irene Picnic Area. Then to Sprague Lake and no parking available, so went down to Glacier Campground and Jennings and I took a short walk, while the girls sat in the woods.

July 14-17, 02. Sunday through Wednesday. Lone Eagle Peak and Crater Lake. July 14, Monday. Picked up Phil Cafaro at 7.00 a.m., and drove to Boulder, and picked up Alan Carter. Drove over Trail Ridge Road and to Monarch Lake Trailhead. Lunched there, and on the trail about 1.00 p.m.

Steady hike, good trail up the Buchanan Pass Trail, first around the edge of the lake, then along willows, and eventually into full forest. Reached Shelter Rock Campground area and then took Cascade Creek Trail, not bad, but some climbing. Found a great campground at the upper of two more conspicuous falls areas, nice flat area 40 yards from the falls, and spent Monday night there.

Monday, up and packed and climbed toward Crater Lake. Reached the Pawnee Lake Trail and on to Mirror and Crater Lake, reached Crater Lake for lunch. 10,350 feet. One bridge crossing in here; a once-two-log bridge, now only one, that I would not have attempted alone, but could have waded it there. Great campsite, with the Lone Eagle Peak spectacularly across the lake, and the jagged aretes to the west all around. We pitched camp, walked to the inlet of the lake (or one of them at least), and Phil and Alan picked their way on around; I went back and took a nap. Lovely evening, cloudless sky.

Lone Eagle Peak is named for Charles Lindbergh.





Tuesday, I spent lazy day prowling the area, first Mirror Lake area below, and then far side of Crater Lake. Phil and Alan went to Pawnee Lake. Hermit thrushes constantly singing. Golden mantled ground squirrel in camp with many antics. Phil and Alan saw a bull moose in Pawnee Lake area.

Flora is full out and splendid, but I wouldn't call this a biodiversity hotspot. Took home and keyed out: Polystichum lonchitis, Mountain Holly-fern, looks rather like a Christmas fern in the East, Weber lists it as rare. Athyrium alpestre, Alpine Lady-fern. Cryptogramma achrostichoides = C. crispa, American Rock-brake, with different sterile and fertile fronds, a common fern. Also keyed a Carex to the genus. Pyrola, one flowered, Pyrola uniflora. One-sided Pyrola, Pyrole secunda. Twinflower, Linnaea borealis, actually a good deal of it. Twayblade orchid, Listera cordata, several times. False Solomon's Seal, Smilacina racemosa (flowers terminal at end of stalk). Twisted-stalk, Streptopus amplexifolius (flowers axillary) (similar to Solomon's Seal, Pogonatum, in the East). Bog-orchid, Habenaria sp. Swamp Laurel, Kalmia polifolia. Spotted coral-root orchid, Corallorhiza maculata. Three Pedicularis: (1) Pedicularis racemosa, Parrot's Beak. (2) Pedicularis groenlandica, Elephantella. (3) Pedicularis parryi, Parry's Lousewort.

Wednesday, July 17. Hiked out. Up and off about 8.30 a.m. and I picked my way down reasonably slowly. At Mirror Lake, the lake was calm and did indeed perfectly mirror the peak. Great sight.

Reached the Sunday night campsite falls for lunch. Phil said he would stay back and take a skinny dip at the falls and catch up with us. Alan and I hardly a minute down the trail met a group of thirty seven (!) women, from the Women's Fitness Club coming uphill making for the falls! He said he had to scamper for his clothes pretty fast.

Somewhat hot and a bit of a slog the rest of the way down. Out about 3.00 p.m. with my feet in rather good shape.

Drove home. Perhaps 150 elk over Trail Ridge Road. Two coyotes not far from Park headquarters. Smoke in the air and we inquired. Then drove past the Big Elk fire, below Pinewood Springs, right on our route, which had started about 3.00 p.m. Nice view of the fire, flames in the trees. Lots of smoke, quite a spectacle. Home about 8.15 p.m.

Next day (July 18): fire has spread to 500 acres, and a slurry bomber crashed trying to drop slurry on the fire, killing two crewmen. 120 homes in a mountain home area named Elk Meadows evacuated.

July 25 - Aug. 3, 02. Yellowstone Institute and Backpack, Beartooth Absaroka Wilderness.

July 25, left home 6.30 a.m. Cloudy day. Scattered antelope about fifteen of them. Got speeding ticket n.w. of Caspar. Rained several hours. Ferruginous hawk, white tail, dark tip, about entering the Chief Joseph Highway.

Camped at Hunter Peak Campground. Small campground, only 9 sites, and many mosquitoes. Spitting rain most of the evening, and sometimes harder. Nice mixture of rain on the car roof and light classical music on the CD player through the car radio.

Clark's Fork is of the Yellowstone River. The campground host says there has been no trouble with bears this summer or last, though one came through. only passing through, a week or so

ago.

July 26, Friday. Packed up in some rain. Pilot Mountain (like the Matterhorn) and Index (several pix). Two sandhill cranes cackling noisily high in the sky, Leopold's primeval call, since cranes are 40 million years old.

Reached Lamar Ranch about noon. 531 miles. Saw Jim Halfpenny, taking a Lichen's and Mosses class. Met Sharon Eversman, biology, Montana State, teaching the mosses and lichens class. She knows lichens primarily, but also mosses. Knows Bill Weber. Jack Sharp taught her mosses.

Evening, class with only four persons.

July 27, Saturday. In the early morning, at breakfast, saw a grizzly sow with two cubs across the valley, though I only saw her and one cub, though nicely in a good scope. Class through the morning. Cloudy bright, often threatening rain.

Saturday afternoon. Hiked to wolf pens, in the rain, though it stopped while we were there and only a little rain on the way back, threatening more and more of a downpour as we returned. Not long back in the cabin the downpour started and it rained hard for four or five hours. I had dried the wet tent the day before but was unable to fold it because of high wind. Now I could not get out to fold it, so I managed to fold tent and fly inside the cabin.

Jenny Golding, campus pastor somewhere and married to George ?, is summer director at the Institute.

July 28, Sunday. Good weather. Class in the morning, over at noon. Left Lamar Ranch, 1:30 p.m. Black bear near the road, vicinity of Soda Butte.

Drove over Beartooth Pass, lovely drive though I seldom paused, needing to get to Red Lodge and East Rosebud. Small patches of snow around the pass from snow the night before, when raining at Lamar. Stopped in Ranger station, and also got milkshake. Called Jane. Arrived at East Rosebud Campground at 5.30 p.m. There is a huge burn on the way in, the Shepard Mountain Burn, from 1996, started by lightning late summer, and burned down the valley from Arch Creek, s.w. side of Shepard Mountain.

Trail crew was camped there and I talked with a woman who turned out to be the backcountry ranger and also in charge of the trail crew. Rather knowledgeable about the area.

Birch-leaved spiraea, Spiraea betulifolia  
Spreading dogbane, Apocynum adrosaemifolium

July 29, Monday. Warm night and good clear morning. On the trail about 9.30 a.m. with bear bas. Walked through the Shepard Burn, regenerating some. Doe and fawn, looked like whitetails. Reached elk Lake about 12.30 and pitched camp.

Discovered, incredibly, a heel blister, left heel, which I never felt. How did this happen in only 3 1/2 miles? Taped it up with Blister kit and Duct tape, and concerned about tomorrow.

July 30, Tuesday. Up at 7.00 a.m., good weather. Climed up well built and old trail, though recently repaired. Good bridges. Balsam poplar. A spectacular gorge with great cataracts and

cascades. Reached Rimrock Lake. 30 or so ducks on the lake in a close group, which I eventually figured out must be female Barrow's goldeneyes. (Though later conversation with Barbara Pitman, who seems to be the local ornithologist at Custer National Forest, says common goldeneyes are what you usually see.)

Lovely lake, one of the prettiest I remember. Cataract at the upper end.

Continued and reached Rainbow Lake, which is different and also lovely, more asure blue than Rimrock, which is darker. Also much bigger. Lunched in the shadow of a lone spruce in a talus slope, high over Rainbow. Steady wind, not cold. Made my way back, in camp about 3.10 p.m. Passed a couple groups of backpackers, one of girls all with trekker poles, another of boys from North Dakota, seemingly a church group.

Cow parsnip, Heraculum maximum = lanatum  
Pipsissewa

On reaching camp met with backcountry ranger woman again. Taped-up blister did quite well, though I picked my way with some care, and hardly felt it. Mule deer in camp. Very persistently singing olive-sided flycatcher in camp the whole stay.

July 31, Wednesday. Off about 9.00 a.m. Walked out by 11.00 a.m. Called Jane at the East Rosebud store, and trouble with Giles.

Took a good bath at Jimmie Joe Campground in the river and changed clothes.

Drove back to Red Lodge, milkshake, and pitched camp at Greenenough Lake Campground about 4.00 p.m.

August 1, Thursday. Up at 6.15, and off at 8.15 a.m. Leisurely drive over the Beartooth Highway with numerous stops. Windy and cold but clear.

Twin Lakes below the East Summit, Beartooth Pass (pix).  
West Summit 10,047 feet. Marmots. No elk, no goats.

Pitched camp at Island Lake 11.00 a.m. Put lunch together and took off for hike to Lake Hauser, Lake Losekamp, and Lake Stockade, 8 1/2 miles. Beartooth Loop, National Scenic Trail. Lovely hike over rolling plateau, very different from the East Rosebud dramatic canyons. Various ponds in addition to the lakes--glacial remnants.

Viviparous bistort, Polygonum viviparum.  
Phyllodoce, Phyllodoce empetrifomis.

I did the 8 miles in 4 hours, with a lunch stop. This is about as fast as you will do alpine hiking, but often the path was easy, occasional climbing. Sawtooth Mountain was often on the right going, though the teeth don't snow from this angle.

The Trekker poles mean you can move faster, assuming your feet can take it, since you have little fear of falling.

Back about 4.00. Cool at supper, though cloudless sky. Dinty Moore stew. The campground is not full, the water system is shut down, maybe the reason.

I walked 1 1/2 hours after supper, at least two miles, to bring it to 10 for the day. Walked to the n.e. end of Island Lake. I could rock-hop the exit stream below the campground, one that I had to wade two years ago.

I was originally to have gone on a 26 mile Sierra Club Hike, but needed to join the group late Sunday, walking into Elk Lake to join them. I couldn't persuade the trip leader to let me do this.

So I didn't do the 26 miles, but I did do 24 miles of hiking, with 14 of backpacking/hiking in the canyon country and 10 miles on the plateau country, so I saw equally well what the Beartooths are like.

It is surprisingly light up this high, still at 9.00 p.m.

Carry in enough water for one night, as these campground water systems are often closed.

Snipe winnowing in the night.

Aug. 2, Friday. Up at 5.20 a.m. and off about 6.10 a.m., without breakfast. Stayed in the Backpacker's tent for a fast get off, but the cot in here does very well.

Thermometer in the Jeep overhead console driving off was 35°, then up and down from there to the low forties. 200 cows on the road, then another group of 50, with a mother nursing calves in the middle of the road that I could hardly get around.

Breakfast at Sunlight Basin Picnic Ground, cooked oatmeal and made coffee. Only passable picnic ground, grubby.

Reached Cody about 10.30 and home 6.10 p.m. Good trip.

## Spain, 2002

August 12-25, 02. Spain for International Society for Science and Religion, followed by Science and the Spiritual Quest, on the Three Monotheisms and Science and Religion. Alhambra Palace Hotel. Good trip, though not much natural history.

Aug 12., Monday. Left home 6.45 a.m., to Chicago.  
Chicago-Madrid. Arrived Madrid early morning, and never saw the ocean.

Aug. 13. Madrid-Malaga, to find that we had no luggage. Met there by Nancy Anthonis, tourist agent, Spanish Heritage Tours local contact. Reached Marbella (pronounced Mar-BAY-yuh) about 2.00 p.m., after futile search for luggage. Different hotel from what we had expected, a sister hotel. But it is on the beach at the back. El Fuerte Miramar Hotel.

The Sierra Blanca Mountains (= white mountains) rise dramatically over the town, and are nicely seen outside our hotel window.

Aug. 14, Wednesday. Trip to Seville. We were picked up in a minivan, 5.45 a.m. and lots of pickups, eventually joining a bus.

Trip up over a pass, and descend into olive grove country. Essentially semi-arid, though they seem to get considerable rain in the winter. Reached Antequerra. Reached Esteppa. Reached Seville.

Stopped at Plaza de Espana, built for an exposition in the 1920's. (pix)

The river to Seville (Guadalquivir) is navigable to the Atlantic by ships, or was in the days when Seville was a center of exploration and exploitation of the New World.

Walked into the City Centre and cathedral. The tower was once a minaret, now with a bell tower on top--and the bells ringing. (pix)

Lunch. Free time. Went to Alcazar Palace. Rejoined the group, and long drive back to Malaga and Marbella.

The Spanish cure ham, something like Southern cured ham, and call it jamon. Ate it often on the trip. Generally not as good as what we get back home.

Aug. 15, Thursday. Trip to Ronda. Off at 9.00 a.m. Drive over a higher pass than yesterday, 3,600 ft. A good climb. The upper parts are semi-forested, and on the other side, oaks, though not tall ones. Fewer olives than yesterday.

Reached Ronda, a town with two halves, north and south, split by a spectacular gorge (pix).

Founded by Celts, and long-inhabited.

Visited a cathedral much devoted to Mary. Museum.

And back to the bus for lunch on the edge of town. Returned to Marbella.

And thank goodness, found our luggage in the hotel.

August 16, Friday. Gibraltar. Left 9.00 a.m. with some confusion about the pickup point. Drove east along the coast and reached La Linea and Gibraltar. Some wait on the bus creeping toward a checkpoint, then into Gibraltar, with a town at the bottom of the rock.

Switched to a minivan, and drove up the rock with various overlooks. At one point you could see, dimly in the distance, Jebel Musa visible across the strait in Morocco. This and Jebel Tarik (= Gibraltar) are the ancient Twin Pillars of Hercules.

Gibraltar has been British since 1704.

Gibraltar is limestone and has 140 caves. There are 70 km. of caves and tunnels in it. Visited St. Michael's cave, quite nice stalactites and stalagmites. Outfitted as a hospital in World War II.

Saw the Barbary Apes, macaques, over half a dozen of them. (pix).

Returned to town. Pickup lunch on bench in the square. Walked around the town, and up to an Anglican Cathedral. Drive back to Marbella.

August 17, Saturday. Tangier. Off at 6.30 a.m. for a half hour wait for the bus pickup.

Reached Algeciras for an 8.30 a.m. ferry. Uneventful and rather uninteresting ride across the straits of Gibraltar. Gibraltar was hardly visible across the bay. After an hour and fifteen minutes, reached Tangier.

Bus ride a round newer town, then walking tour of Kasbah and Medina (old city). Kasbah was a military fort once.

Taken to a spice shop for spice talk and sales pitch.

Lunch with Shish Kabob and chicken and cous cous.

Continued the walk to a rug factory with another sales pitch. Streets narrow and definitely Third World.

Frequent photos of the king displayed on billboards. The terrain is hilly, mountainous.

Back to the ferry. Gibraltar better visible on return.

This is technically my fifth trip to Africa.

Ceuta is a Spanish enclave on the Moroccan coast, and said to be grim and uninteresting.

August 18, Sunday. Up late, breakfast, and strolled around the old city. Moorish walls.

An Arab prince has built a copy of the White House here.

Spain has ten National Parks.

In the afternoon, on the beach a couple hours and a couple dips in the Mediterranean--with many skimpily clad women, and 8-10 topless.

Spaghetti at a local restaurant.

August 19. Train to Granada. Taxi to bus station, bus to Malaga, and wait a couple hours. Train to Bobadilla, a village and transfer junction. Wait a couple hours there, then caught train to Granada. Train ride was pretty through olive grove country, but this is definitely not the way to go. Takes all day to do what you ought to do in a couple hours.

Taxi to Alhambra Palace Hotel, and room with a grand view over the city.

August 20, Tuesday. Conference opened with a day trip to Cordoba. Good bus ride through the country, then toured the cathedral there, a grand cathedral, which is built inside what was once a mosque. Lovely arches and courts survive from the mosque.

Bought pearls for Shonny.

Returned for banquet at the Alhambra, with Jane (who did not get to eat all the good meals the following week!)

Wednesday - Sunday. Conference.

Wednesday. Night tour of the Alhambra Palace.

Thursday there was a big dinner at a restaurant in a part of the city called Albaicin, the city's oldest quarter, and overlooking the Alhambra Palace--overpriced \$75 each. But an interesting evening.

Saturday. Saw the tombs of Ferdinand and Isabella, with stairs down to see their lead coffins.

The mountains around Granada are the Sierra Nevada (snowy mountains in Spanish). Some of them rise to about 11,000 feet, including Spain's two highest points, and a dozen peaks over 3,000 meters, but you couldn't evidently see this high from the city. Contours tend to be dull and rounded, and there are few spectacular landscapes. Some alpine vegetation, but slopes are largely denuded. There is an intricate system of irrigation canals that goes back to Moorish times. Some snow pack here September to May.

August 25, Monday. Flew home, a stretched day. Granada to Madrid. Madrid to Chicago. Chicago to Denver. Home about 8.00 p.m. Went to bed and up early the next day to begin teaching for the fall.

end Spain

Sept. 7, 02. Saturday. Hike to Mt. Margaret, with graduate students. Phil Cafaro, Jane Kneller. Jane Comson. Dita Drazilova (here on Fulbright from Czech Republic). Dave Wiles. Good hike, trail is mostly old road, and reasonably well marked. There are lots of other trails, much used by mountain bikers. No climbing, mostly flats through ponderosa pine, some of it thinned against fires. But you nevertheless come out on a "mountain," a cliff overlooking the North Lone Pine Valley and Maxwell Ranch right below you. Some rain on return. 7.8 miles.

Sept. 13-23, Edinburgh at Ifigene (International Forum on Genetic Engineering Conference).

Sept. 13, Friday. Left Denver 12.15, flew to Newark, then overnight to Manchester (on Continental).

Sept. 14, Saturday. Onward to Edinburgh (on British Midland). Reached Inverleith Hotel about 1.00 p.m. "A small hotel," which became a frequent remark. Good hosts, but cramped. But convenient to the Botanic Gardens.

Napped and went up to Princes Street.

Sept. 15, Sunday. Went to church at St. Giles, a memorial service for the Battle of Britain, the air battle to prevent Hitler's invasion of the British Isles, over half a century back. Afterward at lunch in the Cathedral restaurant, talked with a couple veterans of the battle.

Sept. 16, Monday. Tour in van to Trossachs, Loch Lomond. Lovely weather, and best weather ever at Loch Lomond. Nice day. Good guide.

Sept. 17, Tuesday. Lunch with Michael Northcott (New College, Ethics) at the Royal Botanic Gardens. In the afternoon I went to see Tom Torrance (my advisor for my Ph.D. at New College, 1956-1958, now in his mid-eighties. But he walked down the street with me for a quarter mile, toward the bus stop.

Sept. 18-21. Ifigene Seminar. Met some interesting people, including two from the Roslin Institute, who a year or two back cloned Dolly (first sheep to be cloned by transplanting DNA from another sheep). They are more interested in Tracy, a transgenic sheep who gives milk with the enzyme humans need to cure cystic fibrosis. Also lots of plant breeders and horticulturalists there.

Sept. 21-22, Saturday and Sunday, stayed at 17 Abercromby Place, where Jane and I lived (as newlyweds) when I was a student in Edinburgh. Lots of memories.

Sept. 21, Saturday. Went on field trip to Pishwantan Wood, about a hour s.e. of Edinburgh, near village of Gifford. With a group keen on Goethean science and biodynamics, and much into getting into the spirit of place (and often too touchy-feely for me). But they were cordial and interesting, and did love their landscape. Rather scenic ride out and back.

Saturday evening. Dinner with Timothy Sprigge, retired, philosophy, Edinburgh, his wife, Giglia, and also John and Margaret Llewelyn. He is retired Edinburgh philosopher.

Sept. 22, Sunday. Went to St. George's West, where we used to go rather regularly when I was a student there. Murdo Edwen MacDonald, then the pastor, is now in retirement home in

Glasgow, with failing powers.

In the afternoon, we caught the bus out to a nearby town and walked a mile and a half to Rosslyn Chapel. Scenic on the way back.

Sept. 23, Monday. Off early, taxi at 4.30 a.m., left Edinburgh, 6.30 a.m., flight to Gatwick, then to Houston, then to Denver. Home about 7.00 p.m., and ready to teach on Tuesday.

end Edinburgh,

October 26, 02. Arthur's Rock. Alone. Left home 8.30, on trail about 9.15. Lovely day, though we had had some snow several days in previous week, and snow showers are threatened tonight. Uneventful climb, trails well marked. At the summit you come around from the west, come up to a flat area where a huge rock prevents your seeing anything at all eastward. Then descend a bit, and find a couloir (with sign saying route to summit, be careful, dangerous trail), scramble up this, top out at level place with view, and then walk on high rocks another 100 feet to highest point.

I returned the alternate route, then took off on the link to the Mill Creek Trail (in Horsetooth Park) and came back that way. Magpies, Stellar's jay. I was on Arthur's Rock trail, Feb. 27, 1971; May 20, 1972; Dec. 11, 1977 (the first hike I took after daddy died); Dec. 27, 1978, with Giles; June 11, 1982, and May 28, 1988; but it has been fourteen years since I have been there.

Nov. 15, 02. Friday. Ran 5 miles to celebrate my upcoming 70th birthday. Nice day to run and no problem.

Nov. 20, 02. Steller's jay in the backyard.

Dec. 1, 02. Counting waterfowl on area lakes, with Phil Caffaro and Nick Komar. (For Komar, see Feb. 23, 02.) He is really an expert on birds and has a good scope.

Canada geese - lots, up to 2,200 on one lake

snow goose - one, in the middle of a packed bunch of Canada geese on a Loveland lake

common goldeneye

ring-billed gull

Herring gull

More Herring gulls here now than usual. He tells them apart quickly by size, although you can also use the legs. Herring gulls are larger and have pink legs. Ring-bill, seen side by side with Herring gulls are noticeably smaller, and have yellow legs. But the leg colors can be dirty and show up as much as tints as evident color.

California gull - only one seen, yellow legs but w/o the black ring on bill.

shoveler - hundreds

ruddy duck, a few

common merganser - many dozens

hooded merganser - many dozens

widgeon

greater scaup - seldom here, but Komar found a few

lesser scaup - the usual one, although not many today

He tells them apart, but even when he shows me in his scope, I can't see it.

redhead duck

wood duck - nicely seen in scope on edge of one of the Poudre Ponds (Merganser Pond)  
great blue heron - half a dozen

tundra swan - three of them, nicely seen (in scope),  
at North Poudre Reservoir # 3, 2 m. n.w. of Wellington on CR 11.  
(formerly called whistling swan). Komar tells them from Trumpeter Swans by way the black skin on the face goes into the white. Also he claimed he could see a yellow spot on some of them at base of bill.

Clark's grebe - similar to Western and a "new species". It's not even in my book, but ornithologists have cut it off from Western grebe.

bald eagles - sixteen at Fossil Creek Reservoir, half adults. Another 3-4 elsewhere

kingfisher

black-crowned night heron - one, immature, a rare bird this time of year

Dec. 4-5, 02. Mary Jack and Ernest here. Dec. 4, Wednesday. Met them at Holiday Inn and took them to see the woolly mammoth bones. In August, while bulldozing to make a new playground at Fossil Creek Community Park, where Lemay crosses Fossil Creek, the equipment operators noticed the bones. Soon CSU anthropology was called in and excavated the site. Paul Burnett was GTA in charge. Larry Todd the overseeing professor. So we saw the bones, now at the Paleoanthropology Lab in General Services Building. Several large leg bones which they had cast around to keep them from falling apart, and some smaller bones. Woolly mammoth was a kind of wooly elephant, with proboscis, flexible trunk used for feeding.

Fossil finds are not that unusual. Tens of thousands of them have been found in Siberia, often with excellent ivory, and mammoth ivory trade has formerly been important in Siberia. Afterward, we drove down to the park area, now mostly a construction site, and looked over where they made the find. Date of the mammoth is now unknown, could be 30,000 to 100,000 years. Rather curiously and coincidentally, the playground site was to have a fossil animal theme, including a mammoth (given the Fossil Creek connections). Most of the fossils on fossil creek have been found much closer toward the mountains, however.

These anthropology students are also excavating a bison kill site, where native Americans, several thousand years ago, made a trap chute that killed a couple hundred bison. Near Windsor.

Dec. 5. Thursday. Went out to the Colorado Division of Wildlife Animal Care facility to see three mountain lions. A hunter in Wyoming made a kill, treed the mother with dogs. Killed her, not realizing she was lactating. Maybe a late brood, although mountain lions breed year round. So they got the cubs and brought them here.

Now virtually full grown. Two males and one female. The female came right out of a shelter and came right to the fence where we were, purring noticeably. Handsome animal, huge feet. Long tail. Eventually the facility director, Tracey Davis, called out a male, which did not come so close, but the third, said to be the dominant male, stayed in its shelter (like a doghouse).

Drove to Fossil Creek Reservoir and saw nine bald eagles, about half matures and half immature. Nice day. Put Mary Jack and Ernest on the airport limo at 12.15. They were going to Denver to see Julia Lee. Then hurried back to get read to teach Thursday night, aesthetic

appreciation of nature, unit on biophilia.

December 29, 2002. Rawhide Bird Count, with Kevin Cook, David Steingreiber, Phil Cafaro. Off early, 6.25 from house, met Kevin at Ted's Place. Spent the morning hiking some farms in the area, mostly around cottonwoods, willows, some pines spruce. Some of it pretty degraded landscape, overused by cattle.

golden eagle, seen nicely, perched in tree

Eurasian collared dove, 15 of them at Grant's Organic Farm. Black back neck collar. Black wing tips. Not in my books, but looks about like the Ringed Turtle dove, pictured in National Geographic Guide, p. 227, also an introduced species. There is a picture in my Birds of India book, p. 63, under the name collared dove and said to be common there. These collared doves were introduced into Bahamas a century or so back and have spread and are lately found in Colorado.

mallards

green winged teal

widgeon

song sparrow

(tree sparrow) - I did not see.

(marsh wren) - I did not see.

robins, lots of them through the morning, often a couple dozen at a time

(harrier) - I did not see.

ferruginous hawk - half a dozen, sometimes seen nicely

downy woodpecker

junco

kingfisher

great horned owl - flushed in cottonwoods and flew ahead of us, twice

20 antelope

redtail hawk

Drove to Rawhide plant and reservoir, met Ron Ryder.

5 antelope

6 antelope

6 antelope

15 antelope

drove back to Pinyon Pine area.

Scrub jay - seen well at a house toward Owl Canyon. Like a blue jay without a crest, though longer tail. Mostly blue, some gray, especially breast. In the Southern Rocky Mountains and basin and range province. Curiously a disjunct subspecies in Florida.

Hiked the Pinyon Grove in the wildlife area (now closed) and saw little or nothing with a somewhat rough hike down the east side, and around and back. Several quite nice golden eagles as we were returning. Three elk in here; the one I saw had good antlers.

Kevin claimed to see, by glimpse only, two pinyon jays. This one is blue all over, and short tailed. Compare pix of scrub jay and pinyon jay in National Geographic Guide.

Dec. 30. Red fox at west edge (where canal is) of Library parking lot, when I drove out to come home, 5.50 p.m. Loped across in front of the car.

## Trail Log 2003

January 11, 2003. Saturday. Greyrock to Seamon Reservoir (now Gateway Park) with Phil Cafaro and Jeremy Bendik-Keymer. He is new in philosophy at Colorado College, Springs, and up here to visit a couple days. Left home, breakfast at Cafaro's and drove to the waterworks, opened last summer as Fort Collins Gateway Park (previously closed to public admission for many years. Left one car there and drove to Greyrock trailhead. Cloudy morning and rather cold.

I did this hike June 8, 1972, and made some pretty good notes on the topo. Essentially we only found bits and pieces of the trail, followed the route more or less successfully, but often on no evident trail. Trail was much more vestigial than thirty years before. All of which left me somewhat apprehensive about getting out right and before dark with no mishaps, or without too much bushwhacking. Nevertheless we did rather well overall. Canyon wren climbing Greyrock trail. Half dozen deer deep in the woods. One quite nice blue grouse, flew up before me and only up into a tree twenty feet up in good sight. Brown creeper. Lunched in sight of the reservoir in distance (as marked on topo), but then really lost the trail. Followed the route generally, once in while with scraps of trail indistinguishable from game trails. Some relict pole cairns here and there

Descended to reservoir, but it was a longer hike than I remembered just skirting high on the hill around the reservoir, though good beaten trail here. Got out about four, with less than an hour and a half of daylight ahead. Feet did rather well and leg muscles quite well. Good day. Drove to Watson Lake to see golden eagle, which we did see. About fifteen deer in a meadow almost at Bellevue. Had supper at Vern's.

January 17, 03. Friday. Templeton Prize.

I was at my travel agent, Heather Moss, inquiring about the feasibility of going to Ethiopia before I go to Uganda next summer, when my pager went off. Called Jane from there and she said Jack Templeton had called and said it was quite important for me to contact him immediately. I left and went to school and called him, and he said the judges had awarded me the prize; we talked twenty minutes about dates for press interviews (with a problem around March 19, when I am to be at Yale, and a clear slate for conferring the award on May 7, by Prince Philip at Buckingham Palace

I went back to work on a paper on the origin of life for the AAAS Seminar upcoming, and then jogged that afternoon (as usual on MWF), but now reminding myself that it is good to have your feet on the ground and the sky overhead. Jogged into the dark with a full moon in the sky.

January 18, Saturday. With Jane to Rocky Mountain National Park. Clear, though windy. Two bighorn ewes in the canyon. Three coyotes where road turns off to Bear Lake, two adults and one yearling. Very good look at them and the yearling stayed in the middle of the road a couple minutes. No elk yet seen, drove to Cub Lake trailhead area and picnicked in car there. Then drove to Bear Lake and I hiked around it, while Jane stayed in car. Snow blizzards off the peaks were spectacular, giving an eerie jacklight to the misty snow. Took the photos here, one of which I later incorporated into the War Cry photo in London, and made the composite of me in necktie and wintry mountain landscape in the background.

Returned, napped, drove to the lookout up Trail Ridge Road where it is closed. Three deer, three elk. Returned, and found no elk in Horseshoe Park, then about 80 elk just before the exit station. Watched them a while. Then dinner at Nikki's! Drove home in the dark. Home about 7.30.

March 6, 2003. Thursday. Shonny married John Vader Viet., at Stanley Hotel, Estes Park. Snowing by the time the ceremony was over and continued through the dinner.

March 13-21, 2000. Templeton Prize, New York, with Press Conference on March 19.

March 13, Thursday. I flew to Charlotte and drove to Davidson to tell them about donating the prize money for an endowed chair in science and religion. Stayed in Cornelius, nice motel.

March 14, Friday. Met with John Kuykendall and Kristin Bradberry for lunch, then went over to see Bobby Vagt and Dean Clark Nelson. That afternoon I drove back to Charlotte and walked around the old Harding High School, lots of nostalgia. Later drove around the Lake Norman area.

March 15, Saturday. Drove to Charlotte, flew to Nashville, to tell Perry Biddle, my nominator. Picked up by Bob Crumby, and after a lunch we went to tell Perry. Lots of celebrations. Bob had told Perry a tale about an admirer of his books coming to see him, to make sure Perry was there, so Perry was much off cue, and at first couldn't believe it was me.

March 16, Sunday. Flew back to Charlotte, then, awkwardly (with change at Dulles in Washington) to New York. Jane was waiting for me at the airport, with limo driver, fancy limo. Stayed at Millennium Hotel New York United Nations (just opposite the United Nations).

March 17, Monday. Embargoed interviews by phone and in person all day.

March 18, Tuesday. Embargoed interviews by phone and in person all day.

March 19, Wednesday. Press conference announcing the prize, at Church Center for United Nations (across the street), at 11.00-12.30. Lunch followed at hotel. National Public Radio Interview at 2.15 on "All Things Considered," interviewer Robert Siegel. Broadcast about 5.30 that day, broadcast went out to 12 million audience.

March 20, Thursday. Two BBC interviews.

March 21, Friday. Flew home.



## Texas Hill Country, River Region 2003

April 21, 03. Monday. Left home 7.15 a.m. Pheasant in fields on Harmony Road.

Drove to Denver and south on I-25. Lunched at Raton Pass, in truck weigh station stop. Raton, MN is better gas stop than Trinidad.

Raton to Amarillo, TX. Drove thru n.e. corner of New Mexico. Route 87, semi-arid, then more inhabited in the Texas panhandle. About 5 antelope.

Changed into Central Time Zone. Night in Amarillo in fair motel. They did include a cooked breakfast. Adjacent to a quarter horse museum.

Apr. 22, Tuesday. Off at 7.15 and drove south. Plainview, Lubbock, Sweetwater. Phoned in for phone interview with Heifer project, from Plainview.

Sweetwater south to San Angelo and napped there. Then to Junction and s. to Concan.

Rain showers off and on all day. Cool. In mid-sixties. Landscape becomes better watered. Oil and gas. Wheat. Cattle.

Eventually more hilly and often forested.

Roadrunner - seen roadside, briefly. Member of the cuckoo family.

Turkey - seen roadside, briefly.

five black vultures, feeding on a deer carcass.

No raptors evident.

Reached Concan and Neal's cabins, 5.00 p.m. Concan is a Mexican card game. Next town is Uvalde, named for a Spanish general.

Cabin no. 46, owned by Buchanans, not Neal's, though the families are related. Double bedroom (later occupied by Mary Jack and Ernest), kitchen, dining area, and a bedroom and bath, which I occupied. Only one bath, but otherwise quite decent and rustic. Lots of apple trees and such things painted on the walls. Good refrigerator.

Rio Frio river is the main one here, means "cold" river. A tributary is the Dry Frio, usually dry. There are signs all over saying to watch for water on the road. They had a major flood on a recent July 4.

Apr. 23, Wednesday.

Wildflower clinic. Led by Sage Kawecki, a botanist, now director of the Concan Quest, and Marshall Johnston (he is well-known Texas botanist).

Enquist, Marshall, Wildflowers of the Texas Hill Country. Austin, TX: Lone Star Botanical, 1987. Excellent. I bought a copy.

Zomlefer, Wendy B., Guide to Flowering Plant Families. Chapel Hill: Univ. of North Carolina Press, 1994.

Correll, Donovan Stewart, and Johnston, Marshall Conring, Manual of the Vascular Plants of Texas. Richardson, TX: University of Texas at Dallas, 4th printing, 1996. Huge, 2000 pages.

Vines, Robert A., Trees, Shrubs, and Woody Vines of the Southwest. Austin: University of Texas Press, 18th printing, 1994. Large volume, 1200 pages. Arkansas, Louisiana, New Mexico, Oklahoma, Texas.

Lynch, Brother Daniel. Native and Naturalized Wood Plants of Austin and the Hill Country. 1981. ISBN 0-938472-00-3. Locally published.

Tull, Delana, and Miller, George Oxford, Field Guide to Wildflowers, Trees, and Shrubs of Texas. Houston, TX: Gulf Publishing Co., 1991. 300 pages. Looks good.

Ajilvsgi, Geyata, Wildflowers of Texas. Fredericksburg, TX: Shearer Publishing Co., 1991. Third printing, but there is or will be a new edition out.

Diggs, Jr., George M. et al., Shinners and Mahler's Illustrated Flora of North Central Texas. 1999.

Quercus fusiformis, Plateau Live Oak

Juniperus ashei, Ashe juniper

Prosopis glandulosa, Mesquite [pronounced: pro sops. long o's]

Tillandsia recurvata, Ball moss. Only an epiphyte, not a parasite, and therefore it grows on the power lines (but only on the bottom line, nobody knows why).

Pinaropappus roseus, Rock lettuce. White composite.

Tetrandra (= Hymenoxys) linearifolia, Bitterweed. With 4 nerves. Yellow composite.

Evax Rabbit tobacco. composite

Calyptocarpus vialis, Straggler Daisy. low yellow composite, five yellow ray flowers. opposite leaves.

Hedeoma acinoides, Annual Penny-royal. Tiny, pink mint

Engelmannia pinnatifida, Engelmann Daisy. big composite, common roadsides.

Salvia farinacea, Mealy sage. blue mint

Salvia Roemeriana, Cedar sage. brilliant red mint

Solanum dimidiatum, Western horse nettle. Like a big ball nettle.

Colubrina texanus, Hog-plum. flowering, green flowers

Condalia viridis, thorny.

Rapistrum, Bastard cabbage. An exotic.

Matelea reticulata, Pearly milkweed. Robust climbing vine, a milkweed. Climbs fences.

Berberis trifoliata, Agarita. Yellow flowers, red berries. Looks like a barberry, but adapted to dry conditions.

Opuntia leptocaulis, Pencil cactus. Tasajillo. A pest.

Coreopsis basilis, dark-purple-centered composite. Not only the disk flowers but the inner rays are dark purple.

Tradescantia sp. Spiderwort.

Tetragonotheca texana, Nerve-ray. Dark centered composite. Few ray flowers.

Rhus trilobata, Fragrant sumac.

Opuntia macrorhiza, Prickly pear.

Hedyotis (= Houstonia) sp. Bluets

Indigofera miniata, Scarlet pea

Echinocactus texensis, Horse crippler cactus

Diospyros texana, Texas persimmon

Tinantia anomala = Commenliantia anomala. False day flower.

After lunch:

Carduus sp. Thistle

Hymenopappus sp.

Oenothera speciosa, Pink evening primrose - most are pink, though these are white.

Gaura coccinea, Scarlet Gaura

Chaetopappa, a little blue composite

Triodanis coloradoensis, Western Venus Looking Glass

Sow thistle

Phacelia congesta, Blue-curls. A Phacelia.

Toxilis arvensis, Hedge-parsley

Ptelea trifolia, Wafer ash

Smilax, Greenbriar

Hedeoma acinoides, Annual Pennyroyal, small, long rose colored

Linum rigidum, Yellow flax

Gaillardia suavis, Pincushion daisy. No petals, only a red ball on a stalk, the disk flowers. Broad leaves.

Daucus pulillus, Rattlesnake-weed

Lepidium sp., Pepper-grass

Gaura parviflora, small flowers

Callirhoe involucrata, Winecup. A striking flower and often seen later. Malvaceae.

Geranium carolinianum, Wild Geranium

Hymenopappus scabiosaeus, Old Plainsman, tall white composite

Biflora americana, Prairie Bishop's Weed, an umbellifer

Thelesperma filifolium, Green thread, a composite, yellow, with filiform leaves.

Cirsium texanum, Texas thistle

Penstemon triflorus, Scarlet Penstemon

Phlox Roemeriana, Golden-eye Phlox

Krameria lanceolata, Ratany. Unusal family and only this genus

Oxalis

Calliandra aerophylla, rare in Texas

Guajillo [pronounced wa hee lo ??], bristly-looking shrub

Cynanchum barbigerum, Cynanchum, a milkweed

Salvia ballotaeflora, Shrubby Blue-sage. (not a sage, i.e. not Artemesia). A shrubby Salvia, unusual, though common here

Ehretia Anacua, Anacua. A large shrub, white flowers  
Centaurium texense, Lady Bird's Centaury. Named for Lady Bird Johnson. A gentian.  
Eysenhardtia texana, Texas Kidney-wood.

white tail deer. All the deer here are whitetails.  
summer tanager, calling, seen in distance  
dead javelina  
ring-tail cat - dead on road

end of field trip.

plants from the cabin area:

Vitex, the chastity plant. People thought that if you planted it around the house, the woman would stay chaste. Introduced.  
Sophora, Texas mountain-laurel. Leathery  
Texas persimmon  
Pomegranate  
Shrubby blue sage  
Live oak

6 deer

Wednesday evening. Mammals of Texas. John Tveten.

April 24, Thursday. Chalk Bluff (Nuaces River) [pronounced: noo aces] Means "nut" in Spanish, and the nut is the pecan, native here, a small hard shelled one.

Pecan. Carya illinoensis. Native to all of Texas, except high plains and Trans-Pecos. The wild variety has been much "improved" for agriculture with papershell varieties.

Pecans were found less than 50 years after Columbus discovered America, probably in Arkansas. The Indians may have planted some.

painted bunting  
mockingbird  
cowbird  
mourning dove  
golden-fronted woodpecker  
white winged dove  
inca dove  
cactus wren - striped head, black front  
ash-throated flycatcher  
lark sparrow  
yellow-headed blackbird  
rough-winged swallow  
olive-sparrow, only glimpsed  
ladder-backed woodpecker  
vermillion flycatcher - striking bird  
redwing blackbird

hooded oriole  
blue grosbeak  
green kingfisher  
cardinal  
spotted sandpiper  
summer tanager  
Audubon's warbler = yellow-rumped warbler  
eastern wood pewee  
Couch's kingbird  
lesser goldfinch  
redtail hawk  
blue grosbeak - blue, and seen briefly  
Swainson's hawk  
black-chinned hummingbird  
clay-colored sparrow, only glimpsed  
broadwing hawk  
scissor's-tail flycatcher, nicely seen

After lunch

vesper sparrow, in scope  
raven  
great horned owl, mother and chick on nest  
house finch

Thursday evening. Reptiles of Texas, led by Bill Brooks  
phoebe, seen at cabin

April 25, Friday. Birding by Chair with June.

We just sat in chairs watching a feeding site and a water drip a bout 25 yards away. Maybe 25 people, with binoculars and scopes.

lesser goldfinch, including females  
house finch  
black-chinned hummingbird  
painted-bunting, gorgeous, at the water drip  
black-throated sparrow  
ash-throated flycatcher  
cowbird  
cardinal  
white-winged dove  
black-crested titmouse. A new species, newly separated out from the usual tufted titmouse  
Lincoln's sparrow  
small rabbit  
chipping sparrow  
roadrunner - high up in a dead tree, on a snag, and nobody had ever seen one so far up in a tree. Stayed there half an hour.

canyon towhee = California towhee = brown towhee  
nicely seen but plain

pine siskin  
inca dove "no hope" call  
clay-colored sparrow  
vermillion flycatcher

moved to a second feeder  
ruby-throated hummingbird  
hooded oriole  
spotted towhee - now split off from rufous-sided towhee  
long-billed thrasher  
Lincoln's sparrow  
road-runner, in scope  
purple martin

afternoon, River Ecology workshop

evening, "Winging it around Texas Hill country" -- a slide show.

April 26, Saturday. Birding around Concan. Led by Mike Overton  
bush tit  
ash-fronted flycatcher, with song like a policeman's whistle  
vermillion flycatcher  
chimney swift  
clay-colored sparrow  
field sparrow, pink bill

cowbirds - evolved with bison, to breed and follow the bison, so they dropped an egg in somebody else's nest, and moved on.

cardinal  
blue-grey gnatcatcher  
vesper sparrow  
painted bunting  
Bewick's wren  
summer tanager  
black-chinned hummingbird, on nest in live oak.  
golden-checked warbler song: "I'm a pretty warbler." "I'm a pretty warbler." They feed in mature oaks and make nests out of ash juniper bark strands.

black vulture  
barn swallow  
Bell's vireo, glimpsed, and a little better seen later  
olive sparrow -- song, like a dropping ping pong ball

mockingbird  
common ground dove  
deer  
blue grosbeak  
cowbird

Afternoon:

Geology seminar, early afternoon. Nico Hauwert  
calcite, the most common mineral  
quartz, chert

There are few metamorphic rocks in Texas.  
Sinking creeks and rivers.  
Fast re-charging aquifer, including some whirlpools like a huge bathtub drain.

Plant diversity seminar, late afternoon.

Edwards Plateau, 24 million acres. Plateau dissected by canyons. 15-33 inches of rainfall.

thin soil  
grasses, oaks, junipers, and mesquite, and many endemics  
Balcones fault

Lupinus texensis, Texas bluebonnet, is endemic to Texas.

Evening. Bat cave.

Drove out to it, confused a bit about where to go.  
Frio Cave, 2nd largest bat population in Texas. This cave has been known since the 1790's.

Cave swallows were coming in and out of the cave while it was yet day.

10-12 million bats, 98% females. They will give birth to a pup in June, which coincides with a migrating moth population, which they eat. Bats will give birth to the one pup and go back to Mexico in October.

Mexican free-tail bats. There is no flap of skin between the rear legs and the tail.  
Tadarida brasiliensis "withered toad" "brazilian"

Bracken Cave, near San Antonio, has 20 million, biggest aggregation of warm-blooded animals on Earth. This is also the bat at the bridge in Austin, TX.

They readily occupy bat houses.

About sunset, bats started to come out. First hundreds and within a minute or so tens of thousands streaming out of the mouth of the cave. We were right at the mouth of the cave.

Some hit the fence posts, stunned a few minutes, and then flew off.

Hawks soaring above caught a few on the wing and ate them.

Ring-tail [cat] came to the edge of the cave and caught one and went into a hole in the rocks with it. Later it came out again and I got a good look at it. Like a small racoon, but fox-like face.

Tuttle, Melvin, Texas Bats. Austin, TX: Bat Conservation International, 2003. Distributed University of Texas, Austin, Press.

chuck will's widow, calling at night at the cabin.

April 27, Sunday. Birding at Open V Ranch. Led by Derek Mushalek, Joel Simon.

yellow-throated warbler  
cedar waxwing  
summer tanager  
blue grosbeak  
blue-gray gnatcatcher, on nest  
vermillion flycatcher  
lesser goldfinch  
eastern wood pewee  
orchard oriole  
golden-fronted woodpecker  
brown-headed cowbird  
yellow throated vireo  
scissor's tailed flycatcher  
bronze cowbird, bright red eye  
painted bunting  
Couch's kingbird  
Mexican black-bellied whistling ducks  
brown-crested flycatcher  
indigo bunting  
yellow-headed blackbird  
kiskadee, great view, a big flycatcher, nicely seen and heard calling  
redwing blackbird  
road runner, heard calling, a throaty cuckoo call

walked down to river  
kildeer's nest, with four eggs. Really no nest. She turns the eggs  
on return, a splendid broken wing display  
black phoebe  
spotted sandpiper  
osprey - unusual here  
redtail hawk  
the secondaries puff out, a muscular upper arm look  
turkey vultures

back to the farm house

lark sparrow, with harlequin pattern  
inca dove  
barn swallow  
cactus wren - on the wire and heard and seen singing  
hooded oriole, male, nicely seen in good sun  
mockingbird

end field trip.

We drove down Park Chalk Bluff road again (which we used on Saturday)  
saw pyrrhuloxia, in perfect light and watched it 15 minutes.

After lunch:

Mary Jack, Ernest, and I drove to Lost Maples Natural Area, a state park.

Acer grandidentatum, Bigtooth maple = Sabinal maple, a Pleistocene remnant here. So these are "lost maples."

Simpson, Benny J., A Field Guide to Texas Trees. Rowman and Littlefield: Lone Star Books, 1999. Looks good.

Cox, Paul W., and Leslie, Patty, Texas Trees: A Friendly Guide. San Antonio: Corona Publishing Co., 1998.

We walked up the East Trail (a road) from the Overflow Parking Lot.

We saw a golden-cheeked warbler well. I saw it better than M.J. and Ernest. It was in a tree perched overhead on a sparsely leaved branch, watched it half a minute. [I saw one at Travis Audubon Sanctuary, Apr. 14, 1991, near Austin, TX, when I spoke at the Texas Parks and Wildlife Symposium, q.v.]

summer tanager  
cardinals.

But we failed to find the black-capped vireo, the other bird people come to this area to see. (I did see this on the April 14, 1991 trip.)

Lots of these roads are subject to flooding. Warning signs everywhere.

Deer at roadside.

Zone-tailed hawks often mix in with black vultures. (But we never saw one.)

April 28, Monday.  
Left early a.m. to drive home.

Road runner running across the highway and by the end of the crossing essentially flying, a foot or so above the ground.

3 antelope.

overcast in morning and sunny and partly cloudy in afternoon.

night in Dumas, Texas.  
good, inexpensive steak supper.

Then thunderstorm developed, preceded by some hail.

April 29, Tuesday.

continued the drive home.  
in New Mexico: 34 antelope, mostly 2-3-4 in group, plus one big group of 25 on a hillside.

In Colorado: 12 antelope.

home about 3.00 p.m.

end Texas trip.

## **Buckingham Palace, Templeton Award, Prince Philip**

May 3-10, 2003. London and Buckingham Palace Ceremony with Prince Philip.

May 3, Saturday. Left Denver 8.45 p.m., with Jane, Shonny, and John.

May 4, Sunday. Arrived London, 12.50 p.m., good flight. Jane and I rode the fancy limousine in, with Shonny and John's bags, and they rode in on the train. Staying at Claridge's, Brook Street, Mayfair, a most fancy hotel.

May 5, Monday. Bank holiday. No Templeton action. So we took a tour of London, on open-air bus, also boat up the river.

May 6, Tuesday. Interviews all day. Lunch with Sir Sigmund Sternberg ("Sir Siggie"), at the Royal Society of Medicine. He is previous prizewinner, Jewish philanthropist.

May 7, Wednesday. Media Breakfast Roundtable. John Polkinghorne, Arthur Peacocke, Alistair McGrath, Sam Berry, Sir John Houghton (John Ray Initiative, and a prize judge), and others.

12.00. Buckingham Palace Ceremony. Went by five car limo cavalcade from Claridges, passed security at the gate, and were taken to the Chinese Room, and, shortly, Prince Philip arrived. About twenty five persons present. Ceremony lasted 20 minutes. I was presented to him by Jack Templeton, and then the Prince presented me with medallion, certificate, and check. Then Prince Philip stood around and chatted for a while. He was honorary chair of Worldwide Fund for Nature for fifteen years. He gave me a stack of some addresses he had given on the environment and conservation.

Interviews that afternoon.

Reception at the Oxford and Cambridge Club. I gave the check to Kristin Bradberry, Davidson College.

May 8, Thursday. Interviews most of day.

May 9, Friday. Tour to White Cliffs of Dover and Canterbury Cathedral. Nice day.

May 10, Saturday. Left London, arrived Washington for American Association for the Advancement of Science, Dialogue on Science, Ethics, and Religion (DOSER) planning meeting.

May 12, Monday. Left Washington 6.40 p.m., and flew home. Jane had stayed on in London and arrived home the same day.

May 13, Tuesday. CSU President Al Yates gave dinner in my honor at The Catacombs Restaurant. About forty persons present, Philosophy Department and others from around the university.



end Buckingham Palace.

May 20-23, 2003. Arches National Park, with philosophers.

May 20, Tuesday. Left 6.30 a.m. Three deer at Prospect roadside. Picked up Phil Cafaro, then Sung-Jin Kim (visiting from Korea). Nice drive over the mountains. Drove in, after Grand Junction, on Route 128, quite scenic, runs right up the Colorado River. Some great campsites in here. Reached Arches about 4.30.

Others: David Schmitz, Philosophy and Elizabeth Willott, Entomology, (husband and wife) University of Arizona; Alan Carter and Victoria, CU Boulder, Philosophy; Jeremy Bendik-Keymer and Flannery Hysjulien, recent graduate of Colorado College, Geoffrey Frasz, Community College, Las Vegas; Matt Zwolinski, recent Ph.D. at University of Arizona). David Schmitz had gotten a campsite early that morning; line forms for campsites at 7.30 a.m. at park headquarters. Good campsite. Pitched camp.

Walked into Landscape Arch. Coyote seen well in trailhead area.

May 21, Wednesday. Walked Park Avenue with Kim, Cafaro, Zwolinski, and Frasz. Lovely day and great rock formations. Then went to Visitor Center, then to the Windows area. Then took Fiery Furnace Hike, which has to be ranger-guided. Maze-like labyrinth of sandstone canyons and fins. Good hike which requires a good deal of squeezing this way and that between rocks. Reminiscent of the Red Rock 'n Llamas trip. Stunning scenery in here.

Discussion that night after supper on environmental virtue ethics.

May, 22, Thursday. Hiked to Delicate Arch, with Kim. Great hike, 1.5 miles, steady climb lots of it over slickrock. Then we reached an area of steep rocks on one side, open area on another and there was a half-curl bighorn drinking from a rock pond. Immediately we rounded a bend and there was Delicate Arch, with La Sal Mountains, snow-capped in the distance. Stunning scenery, and if ever there was a bighorn ram in a spectacular environment, this was it.

Returned, and lunched at the picnic area at Balanced Rock in the only table in shade, this one a great table under a juniper tree. Back to campsite.

Botany hike at 5.00 p.m. 8.5 inches of rain here on average. Last year 4.5 inches.

Coleogyne ramosissima. Blackbrush. Rose family. Sage colored, low shrub, get a gestalt for it. Often dominant, low rounded clumps. Up close, thorny and opposite. The quite thorny and opposite branching are distinctive. Narrow leaves. Darkish and said to be darker in the rain. Flower is 4 petal-like sepals, yellow, unusual number for a rose. Only a few blossoms on a plant. Forms vast plant communities throughout the Canyonlands.

Purshia mexicana. (Cowania stansburiana, nomenclature varies) Cliff rose. Rose family. Lots of yellow flowers, 5 petals. Long-tailed hairs attached to the seeds, somewhat like Mountain mahogany. In camp. Purshia tridentata, Antelope Bitter-brush is the one at home.

Cercocarpus montanus, Alder-leaf mountain mahogany. Wedge-shaped, deciduous leaves toothed at end, like an alder leaf. Rose family. With long-tailed fruits.

Quercus harvardii. Shinnery oak. Lots of it. This is what they were calling the oak shrub in here, though they said Gambel's oak (Q. gambelii) is around.

Juniperus osteosperma, Utah juniper. What they were calling the one here. The claim is that the plant shuts off water to some of its branches in times of drought, thereby protecting itself, though these branches die. Hence the often dead parts of the tree.

Pinus edulis, Pinyon Pine. A good deal of it.

Faxinus anomala, Single-leaved Ash. Olive family. Lots of it. Thick, single leaf, though the guide says if it gets enough water it may produce a somewhat compound leaf. Lots of samaras.

Ephedra torreyana

Ephedra viridis, Mormon tea. This is a primitive conifer. Makes cones.

Ceratoides lanata. Winterfat.

Amelanchier utahensis, Utah serviceberry.

Streptanthella longirostris, long decurrent pods, like an Arabis.

Chaenactis stevoides, Stevia Dusty Maiden. Low, white composite, common here.

Opuntia polyacantha. Prickly pear.

Schlerocactus whipplei, Whipple's Fishhook cactus

Lepidium, Pepper grass. A mustard

Oenothera sp., Evening-primrose

Astragalus

Delphinium

Artemisia bigelovii, Bigelow Sagebrush. Some sage is here but most of these gray-green plants,

colored like sage in Colorado, are not sage.

Lomatium latilobium.

Discussion that night on the future of environmental ethics.

May 23, Friday. Up at 6.30 and off at 9.00. Good drive home.

June 10, Tuesday. Deer Mountain. Off late, too much going on finishing up Templeton. One bighorn ewe above the siphon at the mouth of Big Thompson Canyon. Got backpack reservations for July trip from Bear Lake over and down North Inlet to Grand Lake. Left trailhead at Deer Ridge at 11.45 a.m.

Nice hike, good trail, lunched about two miles in at perfect picnic site, overlooking Long's and the ranges above Bear Lake, Flattop, etc., and with a nice flat stone to sit on in the shade. Gathering storm over Long's, but good sunshine where I was. On to the top. Trail goes over a low saddle, then down some, then junction with Estes Park trail, and on .2 mile to summit. Good view. 3.2 miles.

Returned, uneventful, but there was rain and graupel about 15 minutes before I got out. On drive out of the park, about a dozen elk, and about ten deer, but I wasn't looking for them. Headed home.

## **Ethiopia and Uganda**

### Ethiopia 2003

June 18, 2003, Wednesday. Left home 4.30 p.m., reached DIA 6.30 p.m., and long line at British Air.

DIA sign at security says that film of any speed that is X-rayed over five times can be damaged.

I managed to get a bulkhead and, when they moved a woman, the bulkhead window. Decent flight, though delayed 45 minutes on takeoff because of electric thunderstorms. Hard rain.

Two CSU students recognized me in the line, from the Templeton Prize news story. He was American, she Russian, though a student in the U.S. for six years. He was going to Moscow to marry her!

June 19, Thursday. Arrived Heathrow about 1.30 p.m., and made with some haste a 2.30 flight to Addis Ababa, though this too was delayed, sitting on the runway, 45 minutes for takeoff.

The flight load was quite light, maybe 25 persons in an Airbus jet. This flight normally goes through Alexandria, Egypt, but for some reason they flew this time through Beirut, Lebanon, which made us two hours late arriving Addis Ababa.

June 20, Friday. Workineh Kelbessa failed to meet me; it was 3.30 a.m. in the middle of the night. Confusion, but a young woman at the airport spoke good English and was helpful.

I took a taxi to Ras Amba hotel, a rather dark ride on doubtful looking streets. Eventually arrived at an essentially closed-up hotel. But a doorman appeared and raised a sleeping clerk.

I was booked to be there, but they took June 20 to mean I would be arriving during the day Friday (not this early a.m. Friday morning). And now they had no room.

After some confusion, I slept on cushions on the floor of a theatre/meeting room. Slept 4.00 a.m. to about 8.00 a.m., which really wasn't as bad as it sounds. There was a toilet off to one side of the room.

The electricity in the hotel is now off. They have no electricity in the city two days a week, though all nights they have electricity, and the outage rotates through sections of the city.

I got breakfast and got a room. In the daylight, the hotel looked better. I put in some phone calls to find out what was going on.

Weather on the cool side, surprisingly, but this is high elevation.

At 11.00 a.m. Workineh Kelbessa (Department of Philosophy, University of Addis Ababa, and my host) appeared, very apologetic about missing me at the airport. He had the date wrong. Ethiopians use a scheme by which days begin at 6.00 a.m. and he thought my arrival was later on Friday.

Also he wanted me to move hotels, and so we moved to Hotel National, at half the price, \$ 18 per night instead of \$ 36. And a better room.

I lunched with him, then took a short nap, and off to meet students at 3.00 p.m. The students were also hearing a lecture by an Ethiopian, now with UNESCO.

But first I went to the President of the University's office.  
President Andreas Eshete.

The President's office is in the old palace of the Emperor Haile Selassie, and a big spacious room, but with the electricity off on this day and this part of town. Rather dim in there.

Then I spoke to the students about 40 of them, 30 minutes and then had a lively question and answer session.

Some philosophers here:

Ably Tsegaye, Ph.D., African Philosophy, Modern Philosophy.

Alemayehu Birru, B.A.

Bekele Gutema, Ph.D., African philosophy. Dean of the College and still teaches philosophy.

Gimma Taye, M.A.

Markos Gizaw, B.A.

Peter Darota, M.A., went to school in Kansas, USA

Samuel Assefa, Ph.D., social and political philosophy. Went to Princeton, asked various questions in the session and didn't think environmental philosophy was much good, or that philosophers can ever settle anything.

Tera Dewo, M.A.

Wondifraw Ambaye, B.A.

Workineh Kelbessa, development studies and environmental ethics. Ph.D. University of Wales, under Robin Attfield, and I had helped him get materials.

Although he tolerates Kelbessa as his last name, when Westerners use it or index his writings, Ethiopian do not really have the family/surname and given name system we use in the West (as does most of the world). Kelbessa is his father's name, so Workineh Kelbessa means Workineh son of Kelbessa.

Also he is puzzled when he has to fill in his race. He does not want to be called "black" or "Negro" and he is not "white." I suggested we do not think of people from southern India as either, but as Indians. He should think of his race as Ethiopian. Around town, however, half or two-thirds of the faces on the street I would call "black" or "Negro."

The "language of instruction" in the University is English. All classes are in English. But as a matter of fact much, most of the conversation up and down the halls and in offices is in Amharic, the local generic language.

There was stewing around afterward to arrange a nature trip and get a car from the university.

I tried to call home from a phone shop, but my security protection back in Fort Collins prevented them from getting through. They didn't know how to key in a code to get through, even though I told them to key in my home phone number.

I tried then to call Shonny, but when they tried to place the call they got her answering machine, and to leave a message for Shonny you had to use the # symbol, and they didn't know how to do that! Defeated by the high tech at home.

Dinner with Workineh and his friend, Abera Fana, in a restaurant. O.K. by Third World Standards. Abera Fana is an auto technician, works for the government, and was often with us and quite helpful and cordial. He knew his way around town.

Cloudy, cool all day.

Thunderstorms and good rain, 9.00 p.m. - 10.00 p.m.

June 21, Sunday.

Rain in early morning and lightning.

Noisy church service on loudspeaker in Ethiopian Orthodox Church across the street in early a.m., 6.00 a.m. on, and still continuing at 8.00 p.m.

No power here today, so I had to walk down four flights, and back up, to breakfast.

Trip to Akaki Wetlands.

Drove out in Kelbessa's car to the village of Akaki. Lots of goats.

We hired a horse drawn cart (gari) to ride out to the wetlands. Rode with constant (but light) whipping of the horse to keep him trotting out in the rural area, mostly by large empty fields and through a few villages. Mostly a good horse and buggy road, but there were some wet spots the horse could barely pull us through.

The farmers we passed were plowing with very simple plows, a long pole and a pointed plow, maybe an iron tip. Pulled by oxen. The farmers just carried the plow home on their shoulders.

We met lots of people walking in to town or in other garis coming in, often carrying something to sell. Bumpy ride but I did o.k. Reached the wetlands with a defunct dam at one end.

great egret (=great white egret)  
tawny eagle  
great white pelican  
white-naped (=white-necked) raven  
cliff chat  
cattle egret

Returned and drove to Debre Zeit and had lunch at Hotel Bishoftu, on the rim of a volcano crater with a lake in it. Lake Bishoftu.

A striking setting, but the land is overgrazed and abused, pretty scruffy. The lamb pieces for lunch were too tough to eat. Hotter and drier here and good weather all day.

Drove to Lake Hora, another crater lake, but this time we were at the lake shore and walked around a wooded shore line, with some cabins, for forty minutes.

pie kingfisher  
little grebe  
long-tailed cormorant  
great cormorant (=white-necked cormorant)  
African darter (= anhinga)

The loads here are largely carried by donkeys. They are often carrying water in yellow plastic cans. Loads in white bags seem to be mostly fertilizer.

I never saw another white face all day.

Jane called. I got electricity back at 10.00 p.m., and took shower.

June 22, Sunday. Up at 5.30 a.m. Steady rain.

Trip to Awash National Park. The pickup was an hour late. The university supplied the car, which turned out actually to be the vehicle supplied to the dean of the college. Good-looking 4-WD, nice enough, but there was a wheel shimmy if you drove over 80 km./hour, so that slowed us down some.

Reached Nazaret (= Nazareth), a sizeable town and typical. Myriads of donkeys and goats.

There was a rather good highway, with some sizeable trucks on it. The trucks are coming from Djibouti, their port (though technically another nation), and this is the reason for the good road.

Lots of charcoal for sale on the roadside, but of course this means people have been chopping down trees to make it, if they can find any.

We saw camels now, one group of 12-15 of them.

tef -- an indigenous grass cultivated as a cereal grain. The key ingredient of injera, a bread-like staple of Ethiopia. Grows only in the highlands.

tukul -- thatched houses, draals.

There were Pepsi and Coke signs in the villages, destitute or not, and whether there was any store actually selling drinks or not.

Entered Awash Park. Got a guide (with a gun!, though he hardly needed it). Passed camels, though these are not permitted in the park. Termite mounds

The Simien fox, or Ethiopian wolf, is the rarest of the world's canids, and is placed in its own genus. Fanuel says the preferred name is the Ethiopian wolf.

Beisa oryx - seen nicely. A handsome animal. Good-sized. Long straight horns.

Soemmering's gazelle, nicely seen, limited to the horn of Africa.

Then drove off road a mile or two.

15 Beisa oryx (pix)

15 oryx

oryx (pix)

Abyssinian Ground Hornbill (pix).

Abyssinia is an older name for Ethiopia, and still seen around often.

white-fronted bee-eater

The common acacias in Awash National Park: (from Fanuel Kebede)

Acacia senegal

A. nelifera

A. nubica

A. nilotica

45 cows, though they are not permitted in the park!!

Reached Awash Falls. Good water flowing here, but the river doesn't make it to the sea (like the Okavango, or Salt Lake). It dries up in the desert.

helmeted guinea-fowl

crocodile seen in the river. A big one.

75 goats, not permitted in the park!!

vervet (= green) monkey

large tortoise, leopard tortoise.

Passed two vans of college students, the only white faces I saw today.

More vervet monkeys, in the campground, including one with infant. (pix)

The Park was a dry, barren acacia flats, acacia often not waist high. The soil is denuded, but how much is overgrazing and how much is drought?

African fish eagle, at Lake Basaka

Left the park. Returned.

Stopped in Nazaret for a coke and they got food. I ate a bit of injera (like a pancake bread).

Returned to Addis Ababa, and the noisy church loudspeaker.

Supper in hotel. A mangy spaghetti, but the meat is too tough to eat.

tid - a tree on campus

Kelbessa's father had one wife, but his grandfather had three wives and was a wealthy landlord.

No American fast food restaurants seen in Addis Ababa.

June 23, Monday. Picked up at 8.15. Went to see Lucy (fossil).

Lucy was found in Afar, near Hadar, far northeast of Ethiopia. The site is marked on my map. Found in 1974 by Donald Johanson, and nicknamed Lucy after the popular Beetle's song, "Lucy in the Sky with Diamonds." This song happened to be playing in camp when the fossil was figured out.

Lucy is 3.2 million years old, with a brain no larger than a chimpanzee. She was only 3.5 feet tall. Australopithecus Afarensis. She was a habitual biped. This seems to prove that hominoids walked upright long before they had big brains. Also she has a V-shaped jaw, more hominoid.

Also in another location, not far away from where Lucy was found, there were stone tools, thought to be 2.5 to 2.6 million years ago, and the oldest yet found.

Since 1974 there have been numerous other fossil hominids found.

There was a class of school children also seeing Lucy, in blue sweaters or uniforms, sometimes more interested in me than in Lucy.

Visited the Lutheran World Foundation. They do some good water development projects, both drinking water and enough irrigation to raise some vegetables and keep them from starving.

Returned to Kelbessa's office.

I met Fanuel Kebede in Workineh's office (I have supported his work in the conservation of wild asses.)

Fanuel Kebede  
P.O. Box 87  
Debre Zeit  
Ethiopia  
fanuelkg@yahoo.com  
Tel: 15-14-85 office  
33-35-18 home

We went to lunch in a scruffy looking restaurant, but the food was rather good.

Fanuel is a zoologist (not a veterinarian), has a M.S. from Kent, UK, in conservation biology.

He works with both wild asses and Grevy's zebra.

Wild ass. Equus africanus

Domestic donkey. Equus asinus

They don't think the two species interbreed, although they do think that the wild ass is the ancestor of the domestic donkey.

The wild ass is taller than a donkey and has an essentially erect mane.

Rump, white under belly, and is larger.

People, enlarging populations, encroach on the asses' habitat with their cattle and goats.

They shoot the wild ass and use its body parts medicinally, though this is probably entirely mistaken. If the locals are really hungry, they will shoot a goat to eat it.

The asses don't seem to be troubled with diseases, especially.

Grevy's zebra has narrow stripes, a white area on its rump, white underbelly, and is larger. Bigger ears, like a mule. Limited to the horn of Africa.

Evening meal in another hotel. Rice. Got flashlight (= torch!) at a shop. Mine was broken, replaced battery & bulb to no avail.

July 14, Tuesday

I spent the morning in the hotel, but walked up the street and found a "supermarket" with chocolate, and some pastries.

There are three main tributaries that feed the Nile from the Ethiopian mountains:

(1) Takkazi, in lower course called the Atbara

(2) Sobal

(3) Abbay, flows from a huge lake, Lake Tana, sunk in a depression in the mountains. Twists around and becomes the Blue Nile.

The Blue Nile is joined by the White Nile in Sudan, and this is 90% of the Nile water.

There are lots of endemics in Ethiopia. The central highlands are quite isolated by surrounding desert and species are prone to be endemics. For example, 32% of Ethiopia's frogs are endemic.

There are more cattle in Ethiopia than in any other country in Africa.

95% of the original forest is lost to agriculture, and resulting soil erosion. The rural people were constantly seen returning from town having bought fertilizer, laden on donkeys.

Until recently, the University of Addis Ababa was the only university in the country, founded by Haile Selassie in 1961.

Now several other technical schools have been given university status, often more hopefully than in fact.

Almaya University, with a college of agriculture

McKele University

Bahidar University

South University

Jimma University, with a college of agriculture

Wando Genet, a division of South University, has a college of forestry and a college of agriculture.

There is a college of veterinary medicine in the University of Addis Ababa, but it is located at Debre Zeit.

Visited:

1. Dr. Kifle Degne. Chair, Biology Dept.

2. Dr. Enjormu Kelbessa, botanist

1. Interview with Kifle Degna, Chair, Biology.

They have about 30 M.S. students and a few Ph.D's, the latter done conjointly with Swedish universities.

80-90% of their research is Swedish development projects. The Ethiopian government funds very little.

They have one electron microscope but no technician to operate it.

There are a couple of environmental and ecology M.A. sequences.

2. Interview with Enjormu Kelbessa, botanist

He is curator of the herbarium. This is a working herbarium. The main type specimens are at Kew Gardens, London. Some are in Paris, some in Italy. Those in Berlin were destroyed in World War II.

The Germans were good taxonomists, the Italians poor ones.

There is a big (8 vol.) flora of Ethiopia, two-thirds finished. Thanks to the cooperation of the Scandinavians.

The landscape is badly degraded from over-grazing and timber cutting.

June 25, Wednesday.

Rainy, cool, and no power, but, thankfully, the noisy religious loudspeakers at the church are silent.

I walked down five flights of stairs to breakfast (currently being served in the basement) and back up again.

No electricity means no hot water, but it also means no water. And that means no toilet flushing.

I read e-mail at the university, which has power on, but there were numerous power interruptions nevertheless.

At the university the flush toilets are busted and there is no paper either. So getting to a toilet can be a problem.

At e-mail, I got the invitation to be visiting professor at Washington and Lee University, Lexington, VA, April-May 2004. The Shenandoah Valley will be paradise after Ethiopia.

Met with a young woman student in Workineh's office, very short hair and looked something like a thin young man. Workineh says she is one of his best students.

Meron Tilahun  
P.O. Box 1833  
Nazareth

or:

P.O. Box 1176  
Addis Ababa University.

She will teach biology and English in a private school in Nazareth this summer. (Later: I sent her a copy of Genes, Genesis and God.)

Met with Tigist Tefera  
e-mail: wurog5@yahoo.com  
Social Anthropology

Selamowit Menkir  
e-mail: tutumenkir@yahoo.com  
graduate student in anthropology.

They tried to get me on a local TV station interview, which eventually failed.

Met with Tedla Gebreyesus  
e-mail: telda\_g@hotmail.com  
Box 11899  
Addis Ababa

He was quite well read in theology of nature, has a fellowship to Loma Linda University in California, if he can get a visa. (Later: I sent him a copy of Genes, Genesis and God and received a grateful reply.)

Only graduate students have access to the internet. Undergraduates do not.

Afterward, we went to crafts shopping area. Much helped by Abera Fana, the friend of Workineh. Some ivory necklaces and carved figures on sale here. Also some animal skins, none of which would be legal to take back into the U.S.

Bought necklaces. Amatite --the necklaces from Kenya  
silver bracelets are from Ethiopia.

Back in the hotel, in the dark, by candlelight, they presented me with an Ethiopian robe, and also one for Jane -- more bulk than I really wanted to take back to the U.S.

Jane called.

June 26, Thursday.

Cloudy, cool - though no rain. Morning in the hotel room, thinking through my lecture for the afternoon.

The Ethiopians wear lots of clothes, even if this is cool weather. Most of them have long-sleeved shirts on, often light jackets. Women are much covered up. No open necklines on the women.

Workineh's article in the blue book deals with the people around his home (west of Addis Ababa).

His thesis deals with two groups in the South, not near his home.

I spent the morning preparing for the lecture.

Lunched with the dean at a restaurant.

Lecture at 2.00 p.m., supposedly, but didn't start until 2.15 in a dismal auditorium--the Cultural Centre--maybe 60-70 present. In the question period the rain on the roof was so loud I couldn't hear the questions, especially when their English was broken.

June 27, Friday. Up and off at 6.00 a.m., for Senkele' Swayne's Hartebeest Sanctuary. Long drive south.

Picked up Fanuel Kebede in Debre Zeit, where he lives. He has built his own home there.

Driving south. Plenty of vehicles on the road are pouring out black smoke in exhausts. Busses are some of the worst offenders.

Schinus molle, pepper tree, (from Peru) a tree planted to protect from erosion. Extremely drought resistant. (pix, Dharani, Shrubs of East Africa)

Acacia tortilis, Umbrella thorn, the main native acacia. (pix, Dharani, Shrubs of East Africa). Fuel, wood and charcoal, live fencing, pods and leaves as fodder, dyes, shade, ornamental.

Saw two herds of 50-70 camels. They seem both to milk them and eat them.

Passed Lake Koka.

Cordia africana, large-leafed Cordia, large deciduous tree, rounded crown, crooked trunk. Attractive flowers. (pix, Dharani, Shrubs of East Africa).

Trees become common on the landscape.

"O.K." has become part of their language.

cattle egrets

sisal, some cut and ready for sale.

Passed town of Ziway. Stopped for breakfast.

Saw papaya orchard.

a cactus - said to be native (their term is "indigenous"). They eat the fruit and make fences of it.

sacred ibis

We passed Abijetta-Shalla National Park. People all over it, as usual. I would never have known it is a park. It was established to protect flamingoes and pelicans on the lake and these are still there.

We saw ostriches, probably more domestic than wild, though they were once wild in this park.

Passed a scruffy sign - entrance to the park.

Quite a good road, thank goodness.

cactus trees

lots of donkeys loaded with wood. Hundreds of people along the road, often as not with donkeys carrying something. Wood or water usually.

Some fields of potatoes

Lake Langano, seen in the distance.

Bananas, lots of them, but no bananas seen on them.

Croton machrostachyus, broad-leafed croton, a big tree (pix, Dharani, Shrubs of East Africa).  
potatoes for sale roadside

a prosperous area, so they say.

Stopped in Shashemene to pick up food, get petrol (which I paid for, 140 birr). (pix of kids)

I created a commotion on the street just by getting out of the car and walking around.

This is a country where your skin color differentiates you and signals a wealth that they will never know.

All you see are smiling children's faces, and tenacity and hardship on the faces of their mothers and fathers.

The maize here is already grown and being harvested.

Delonyx, a yellow wildflower roadside.

Reached a sign: Senkele' Swayne's Hartebeest Sanctuary, and turned on to dirt road. Passed the park warden, who turned around and joined us.

Swayne's hartebeest - several singles and old males seen

oribi - small antelope. 12 or so seen during the day

Oxpeckers

group of 10-12 hartebeest

superb starling, one nicely seen at Park Headquarters  
hundreds of cattle, which aren't supposed to be here, though there are no houses. When the sanctuary was established, they removed about 700 houses.

40 hartebeest, in a herd  
24 in another herd

Abyssinian roller. Lovely azure blue on wings.

Drove on to higher ground, more trees, acacias with flat tops (pix).

ferns

Picnic lunch on hilltop location, breezy and cool, though pleasant.

Drove to edge of park, sharply marked by line of huts on edge of park (pix).

helmeted guineafowl

end of park, left sanctuary

Drove to Wendo Genet, dirt road, fair.  
Watering place with children (pix), only about half of them with shoes on.

Stopped at a rather fancy (for this area) hotel. Walked the gardens and looked at papaya trees.

The forest behind the hotel is supposed to be pretty much untouched, the original forest in Ethiopia.  
Thick forest.

vervet monkey

The donkeys often have one leg tied up to hobble them.

We stopped for food and I ate their injera, spongy bread made of tef, like a huge pancake.

Both the driver and Fanuel are Ethiopian Orthodox Christians and were "fasting," by which they mean that they do not eat meat, on Wednesdays and Saturdays, throughout the year. So this being Saturday, they were careful not to eat meat.

They also fast six weeks before Easter.

Driving home:

Marabou stork, in trees at twilight

The last two hours driving was in the dark. The blacks, mostly in dark clothing, especially the men, are very hard to see in the dark.

Again, I never saw another white face all day.

Rain in the evening.

650 km, a long day. 14 ½ hours on the road.

June 28, Saturday.

Cool. Noisy church on loudspeaker again. Quite objectionable.

No power.

Breakfast. The same two pieces of stone cold toast and marmalade, and coffee, exactly one half cup of coffee in a stainless steel pitcher and exactly one half cup of warm milk, no more.

And an omelette, two eggs, decent, but I am tired of that.

I'm glad to eat the cereal dry because I'm afraid of the unpasteurized milk.

The evening meal is spaghetti, often about all on the menu that I can eat in this hotel. The rest is too spicy or tough. But I have learned to ask for a mix of tomato and meat sauce and that makes it half palatable.

Down and up five flights of stairs to breakfast.

The water runs for about an hour or an hour and a half on these days, and then quits, must be draining some tank on the roof, not replaced by electric pumps.

Today they have left in the bathroom a five gallon bucket of water and a plastic pitcher, so that I can refill the toilet and get two extra flushes, before 10 p.m. tonight.

I never saw another white face in the hotel, all week along, though various guest were from other African nations, and one black from America, originally an Ethiopian. At least not until the last morning (see below).

Visit to Piazza and bought bracelets. Hundreds of stalls, said to be "open air", the "largest open air market in Africa." But most were stalls with roofs overhead, or stalls in large sheds.

I saw two other whites on the drive back.

Went to lunch, elaborately spread by Workineh at his apartment. A niece lives with him and cooked it. Huge overstuffed furniture, hardly left him room to move around in his living room. Small, but decent apartment.

Visited SIM, Society For International Missionaries, a Pentecostal group, Evangelical Theological Seminary/College. International Evangelical Church. Services in English, Amharic, French, Korean.

The nicest looking institutional set-up I have seen in Addis Ababa. Well built and well kept.

Visited Mekane Yesus Theological Seminary. This is the main Protestant Church in Ethiopia. Means "community of Jesus."

Nice campus, church, classrooms, dormitory rooms. Well kept, though the grass could be mowed.

Returned to the hotel and much confusion paying my bill. It took half an hour to sort it out. All this amounting to about \$ 162 for the nine days stay!!

Jane called 10.00 p.m.

July 29, Sunday.

Well, surprise, three British women with heavy accents in the breakfast room, the only whites I have seen in the hotel in nine days.

Church noise starts at 5.00 a.m. and continues incessantly.

Packed and read Kelbessa's papers until 10.00 a.m.

Picked up at 10.00 a.m by Workineh and Abera, as solicitous and hospitable as ever.

Reached airport, 10.15, a.m., with the usual confusions. Slow line, though not long, at Ethiopian airlines, only one clerk. 40 minutes.

Another slow line at customs, again, not long. At the boarding gate by 12.00, and generally glad to exit Ethiopia. I can fly out of here; but they can't.

A lingering question throughout the whole trip: How could they have been Christian so long (a thousand years) and still be so poor?

## Uganda

29 July, 2003. Sunday.

Arrived Ethiopian airlines, from Addis Ababa, about 3.15 p.m., not bad for Africa.

Met by Lloyd Camp, guide, from South Africa, currently resident in Windhoek, Namibia. Also driver, Herbert. He and Ben Musisi were our drivers for the rest of the trip.

Uganda drives on the left. Ethiopia was on the right.

We drove by the wreckage of the plane involved when Israel rescued hostages from terrorists sheltered by Ida Amin. This is an adjacent airport and is now used by the United Nations as a staging airport for peace-keeping operations in the Democratic Republic of Congo. Relief and other military vehicles seen. Half of those in the hotel were soldiers, officers in rooms, enlisted men on cots on some big rooms. Brits mostly, some S. Africans, some Canadians, some French.

In June 1976 an Air France Airbus flying from Israel was hijacked by Palestinian terrorists and forced to land at Entebbe. Non-Jewish passengers were released and Jewish passengers held hostage against the demand that certain terrorists be freed from Israeli jails.

On July 4, 1976, Israeli paratroopers, operating from Nairobi, stormed the airport, which resulted in all the hostages being freed.

Lake Victoria Hotel is in sight of Lake Victoria, some distance away.

Lake Victoria is the largest lake in Africa and the second largest expanse of fresh water in the world (after Lake Superior). 250 km. long, 200 km. wide. It was not seen by a European until 1858.

The Nile perch was introduced into Lake Victoria in 1956 by the British, intended to be a boon to fishermen. But it ate up all the endemics.

Land Rover is now owned by Ford!

Met Bernie (Bernadette) Wood, local arrangements with Classic Africa Safaris, Entebbe. Her husband runs the hotel.

In the hotel yard:  
hooded vultures

black headed weaver - with red eye

lesser masked weaver. I saw this nicely in the hotel yard and made it out to be a northern masked weaver, nicely seen in hotel yard and nesting in trees there. But Lloyd and Ben said not.

olive thrush - seen on the lawn at length

black kite - seen with its "fish tail"

piebald crow

Angola swallow

I ate dinner on the Veranda, overlooking Lake Victoria in the distance.

July 30 - Monday.

Sunny early, then quite overcast and brooding rain by 10.00 a.m.

Met the group at lunch:

Lloyd T. Camp  
Box 6850  
Windhoek  
Namibia  
lloydc@nts.com.na

John H. Koch, my roommate (but, as it turned out, only one night!)  
91 Pontiac St.  
Webster, NY 14580  
585-342-2000

Sal Lepera - pharmaceutical business  
132 William St.  
Farmingdale, NY 11735

Joel and Christine Lutzker  
14 Lakewood Cir., S.  
Greenwich, CT 06830  
jlutzker@oponline.net  
He is lawyer, deal with property rights. Studied philosophy as an undergraduate.  
She is British, in U.S. a long time.

Linda and James Brit  
P. O. Box 1044  
Woodland, WA 98764  
360-225-8404  
jumbotuna@earthlink.net  
They run a mail-order fly fishing, tie materials business. She seems now to do most of it, with a son. Jim is mostly retired, seems to fish a lot.

Lee and Daphne Glass  
11737 Bunker Hill Dr.  
Rancho Cucamonga, CA 91730

e-mail: daphne.glass@verizon.net

He is retired deputy sheriff of Los Angeles, Co.

She is elementary school teacher. Both black. Came a day late, missed the plane in Los Angeles.

Walk in the Botanic Gardens, more of a bird walk than a botany walk.

black and white colobus monkey

black and white casqued hornbill, dozens seen, often quite well

bronze mannikin

open bill storks

Veraeux's eagle owl - perched in tree, then flew off

little egret

fish eagle

scarlet-chested sunbird

haddada ibis

yellow vented = common bulbul

great blue turaco

cattle egret

Later, a walk on the golf course:

piebald kingfisher, lots of them

grey-backed shrike

pink-backed pelican

eastern gray plantain eater. Plantain is a small banana. Close to a go-away bird.

helmeted guinea fowl

Ruppell's long-tailed starling

coucal, but which one?

dinner in the hotel, a buffet with lots of UN soldiers.

July 1 - Tuesday. Visit by boat to Ngamba Island Chimpanzee Sanctuary.

cloudy, threatening rain

Jane can't reach me and I can't reach her on phone, not AT&T number, but e-mail works, at 200 shillings per minute, or about \$ 1-\$1.50 to send her a brief e-mail.

We are just a couple degrees north of the Equator.

John has a sore knee and can't travel today.

There were great clouds of lake flies at the pier, everywhere in the air, and a nuisance.

Ngamba Island Sanctuary has 250 visitors per month. Jane Goodall was here July 2001. Jane Goodall's Wild Chimpanzees was filmed here and in Gombe Stream, on IMAX format. Jane Goodall fell here with the chimps and hurt herself.

Long boat ride, slow going in the wind, but eventually reached the island.

Spur-winged lapwing (= plover), and her "nest" of four eggs, actually only four eggs laid on the ground. (pix)

great cormorant  
long-tailed cormorant

The sun came out and it turned out to be a lovely day.

I ate Nile perch for lunch.

At 2.00, about fifteen chimps came near the fence and they fed them, fruits, not all that much food. (lots of pix).

Linda Brit has an 80-400 mm. image stabilizer lens and is shooting 400 speed 35 mm. slide film.

Clouds of insects made the photography difficult. The clouds of insects over the trees at a distance looked like a mist rising from the forest. Quite a phenomenon.

The waters were much calmer coming back, and good sun.

Crested cranes, nicely seen in the wildlife rehab area near the boat dock.

Shoebill, a huge stork with a bill as big as a shoe. There were a couple captive in the wildlife rehab area, but in large enclosures and a nice setting.

I returned to find John immobilized from a knee injury and there was much upset that evening over what to do with him. They moved me to Suite 3 so I could get some sleep.

Angola swallow  
Lesser-striped swallow?  
Egyptian geese

July 2, Tuesday.  
They took John to a clinic/hospital in Kampala last night.

Cloudy, light rain.

Packed up and drive to Kampala. Busy, grubby markets in villages en route, prospering "Africa style." But there are no donkeys, in strong contrast with Ethiopia.

Halfway thru Kampala, we got a cell phone call, to go get John from a the clinic/hospital downtown. So we had to retrace, though one van went on ahead.

Passed Parliament Building.

John was in a small private hospital; they have only four overnight beds. Mostly they treat expatriates, often mothers and children coming and going. They drained fluid off John's knee.

En route again, we drove past Makkere University.

There are lots of churches, of very mixed kinds.

I saw all of Kampala I want to see, and glad to be out of town. Endless stalls, makeshift stores.





Passed several papyrus swamps.

Lots of bananas, some maize, dense vegetation, second growth. You cut a banana tree, and another shoot comes out, grows up, and makes bananas in nine months. Cows will eat the leaves.

At lunch, we pulled over in open area in road.  
sooty chat  
fan-tailed widow-bird.

We passed a big truck over-turned on the road.

Lots of private church-related schools. The rural areas are 80% literate.  
Rolling country.

Lots of reddish brick, now used in the buildings. The buildings also may be made of a sort of stucco.

Long-crested eagle  
black and white colobus monkeys in tree (pix).

Then there was a very hard rain and some hail. Difficult to see driving in the van.

Passed tea plantations, often huge fields of tea.

Mpanga Forest  
elephant grass

Saw tea pickers. They use a long thin pole and lay it across the bushes and pick the new leaves that stick up above the pole. Pickers are men as often as women.

We reached Ndali Lodge, on a high saddle between two crater lakes. I was in Cabin 3, shared with Lloyd. 4 vervet monkeys in the trees outside the cabin.

hadada ibis, calling outside the cabin.

Dinner by candlelight. No electricity here.  
Kerosene lanterns in the cabin  
mosquito nets.

July 3, Thursday.  
Up at 5.30 in total dark, and fumbling to light the kerosene lantern with very poor matches.

Breakfast by candlelight in the dark.

It only got to be good light about 6.45. It doesn't get light early at the Equator.

We drove 45 minutes to reach the Kibale, chimpanzee forest. There were three groups, each group with four of us and a guide.

We had to tuck in our pants against safari ants.

The day before the guide had seen chimps break leaves and fan themselves to shoo away the bees, when trying to rob them of their honey.

red colobus

Pipedsinestrum africanum, a notable tree

Balanites wilsoniana, elephant tree.

Ficus valifolia, a fig that fruits every two years.

Celtis zeniceri, with high buttressed roots.

Red-tailed monkey. Cercopithecus ascanius (in Collins Guide, Dorst and Dandelot, as a version of Black-Cheeked, White-Nosed Monkey. In Walker this monkey is called a guenon, vol. 1, p. 462.

Good red-tailed monkey seen.

Good chimp track, three knuckles.

Strangler fig.

First we heard one chimp howl. The guide said it was a big male; he was lost and was trying to find the others.

Then we found some chimps. I first saw one that was looking straight at me, a small one (pix), almost overhead in the dark forest. Two larger ones were hidden in the same tree.

Then we walked around in the forest and saw two more, hardly more than two or three good glimpses, high in the trees.

We searched without success for the big group they had seen the previous day.

Then we found two which we did watch 45 minutes, trying to get better looks at them, and eventually got some fairly good looks--usually moving.

One youngster was for a good while profiled up in a notch in a tree, sitting there. Its mother was higher in the tree and harder to see. The mother was brownish and had only one hand.

Great blue turaco

"Colobus" means "maimed" in Greek. They have no thumbs.

Grey-cheeked mangabey, glimpsed in the trees, with "whoop gobble," the most characteristic sound in the forest.

Watch it; you get dizzy looking up too long with craned neck. Cuts off blood supply to your brain.

In Kibale they have seen very little use of tools by chimps.

Uganda Wildlife Authority on the web  
<http://www.uwa.or.ug>

Lunch, then we took a swamp walk.

Red-faced cisticola  
bronze mannikin, nicely seen  
2 black and white colobus  
3 black and white colobus, quite nicely seen

dusky blue flycatcher

Red colobus monkey, infant in front, nicely seen (pix)

Long-crested eagle, nicely seen  
yellow-headed weaver

black and white shrike

red-tailed monkey, nicely seen jumping

black bishop, nicely seen, spectacular

mangabey

colobus with infant (pix) holding its tiny baby like a white baby doll.

15 black and white colobus monkeys

Cable release failed. Replace it. Luckily I had two.

This got to be a tiring hike, we lingered too long.

Returning on the van there was an olive baboon crossing the road.

Supper, again by candlelight and good food.  
Their water is pumped by hydraulic ram.

Southern cross seen in the night.

July 4!, Friday.

Back to Kibale, the chimp forest.

On tour the second day in our group (only Lloyd and me from my group) was a student at University of North Carolina Chapel Hill, who went to grade school at Irwin Avenue School, the old Harding High School which I attended. Small world!

L'Hoerst's monkey. I only saw moving bushes, but that's what the guides said they saw!

grey-checked mangabey (pix)

Chimps hunt them (Attenborough), also chimps hunt guinea fowl, bush pigs, other monkeys.

blue duiker (other saw it; I didn't.)

I heard chimps howl several times, some good calls.

Also I heard the grey-checked mangabey "whoop-gobble" several times, quite well.

Now we glimpsed various chimps, now on the ground, but moving constantly.

Eventually we tracked a big silverback, and watched this one, 40 minutes, sitting on a broken stump at the base of a tree, doing mostly scratching. The name of this chimp was Dmwiko (means: "Mingling Stick").

Later, another silverback seen crossing the road. The name of this one was Mzee (means: "Old Man"), and they estimate his age at 40 years.

I saw two chimps grooming each other.

Also saw another silverback male, Mobutu.

The males are doing a lot of calling about a female in estrus.

I heard them kicking the buttressed roots, making a hollow drum sound.

There are forty chimps in the area, the guide said. I think I saw twenty or so different ones. It is hard to estimate in the forest.

red-capped robin-chat

African pied wagtails.

Returned to camp, and drove back to Ndali Lodge.

12-15 baboons on the road.

Lunch, and after lunch left for the drive south.

Saw coffee in bloom.

Lots of bumpy dirt roads, sometimes with green grass growing in the middle of the road.

Lots of small craters, usually heavily vegetated, maybe with bananas in them. The bigger ones might have lakes.

Passed a sign: "Stop! Broken Bridge." But we drove on. They had fixed it weeks ago, and never bothered to remove the sign!

We passed a maize field destroyed by hail.

Often there were boys with bicycles laden with bananas, one or maybe two of the big bunches of

bananas, riding downhill but being pushed up the hills on foot.

We reached the town of Kaese. A copper mining town, also cobalt. Bought petrol here.

Continued, Lake George seen in the distance.

We crossed the Equator. Signs here and took pictures.

Imperata grass, savannahs.

Entered the Queen Elizabeth National Park area.

3 Uganda kob

A kob is a handsome antelope, with curved horns reminiscent of an impala, but larger. The one here is Kobus kob thomasi, Uganda kob. We were to see hundreds.

2 kob

2 buffalo

10 elephants, roadside

male kob with one horn

palm-nut vulture

Some cotton was growing near the villages, which are still inside the park.

10-12 baboons, with young, on the roadside.

The baboon youngsters were playing by climbing and swinging in the vines.

olive-baboon - Papio anubis. Anubis baboon.

Seen grooming each other

Some of the infants were seen nursing.

reedbuck, horns point forward

2 buffalo (pix)

black-shouldered kite

8 elephants in distance

bantam quail ?? Could they have meant button-quail?

white backed vulture

warthog

We reached Jacana Lodge, some 15 km. off the main road, on Lake Nyamusgire. The electric power here is generator, off at 10.30 p.m., on at 5.00 a.m., earlier for us as we got up in the dark.

July 5, Saturday.

Up at 5.30 a.m., off for the game drive. They had to put a new battery in one of the vans, borrowed it from the power generator temporarily.

Wildlife drive over an open savanna, dotted with Acacia and Euphorbia trees.

1 kob - male  
elephant - male  
3 kob  
56-60 kob  
15 kob

3 buffalo  
30-40 kob  
6 kob  
30 kob  
6 kob  
15 kob  
12 kob  
red-necked spurfowl (francolin)  
male kob (pix)

We found a lion kill site, but the lions had gone.

15 kob  
crowned crane  
30 kob  
20 kob  
crowned lapwing (= plover)  
African wattled lapwing (= plover)  
50 kob  
collared pratincole

spotted hyena, in distance, eating something, and vultures moving in.

The guides kept saying that the kob were suspicious of lions moving in, looking too much in one direction.

Senegal lapwing (= plover)  
12 kob  
black cuckoo  
3 buffalo  
15 kob  
40 buffalo (pix)  
30 cob  
female kob and calf

Brown snake eagle (= Brown harrier eagle)

Reached a lake, crater lake, with 40-50 pink-backed pelicans in the distance.

7 warthogs  
3 warthogs  
2 water buck, well seen  
kob with Euphorbia trees (pix)  
15 kob

warthog

Defassa waterbuck. There is no white circle on the rump, only a half circle. Quite nicely seen.

black cuckoo

waterbuck

2 waterbuck

5 waterbuck

5 waterbuck

3 warthogs

warthog

red-necked spurfowl (= francolin), with chicks, at side of road

long-crested eagle

3 buffalo

black cuckoo

3 waterbuck

10 kob

1 warthog

warthog, mother with 4 young

buffalo

2 warthogs

We were driving along a channel.

fish eagle

15 baboons

Lunch at an overlook over the channel

Euphorbia trees (pix) [Euphorbia candelabrum](#)

50 buffalo, across the river

nursing warthog, with three sucklings

hippo out of the water, across the water.

Stopped at Mweya Lodge, an upscale lodge.

3 giant forest hogs, seen in far distance, huge and black. Lucky sighting, as these are not easy to see. But too far off.

Mariqua sunbird? Not sure of the ID.

About a dozen banded mongoose came streaming across the hotel lawn and on down into the bush. Banded mongoose follow one another very closely and move like a snake across the field. Nice sighting.

The President of Uganda is visiting here today, and there are military helicopters and soldiers about.

Boat ride up Kazinga Channel, between Lake Edward and Lake George.

Seen on boat:

Goliath herons

swamp fly catcher

spur-winged lapwing (= plover)

fish eagle

Common Squacco heron

hadada ibis

pieb kingfisher, diving. Must have been a hundred or more of these.

Egyptian geese

yellow-billed stork

jacana

crake

green-backed heron

great white egret

little egret

There were a hundred or so hippos, mostly in groups of 10-12. The hippos were habituated to the boat and we got quite close.

gull-billed tern

malachite kingfisher

10-12 pieb kingfishers, in a group

monitor lizard

crested crane, one displaying flapping wings

All of six below are in one pix:

saddle-billed stork

grey headed gull

sacred ibis

Great white pelican

pink-backed pelicans

End of boat ride.

3 warthogs

5 warthogs

waterbuck

3 warthogs

4 warthogs

bushbuck, female with white curved stripe on the side, red. Exactly as pictured in Collins Guide, Dorst and Dandelot.

waterbuck

6 baboons

5 waterbuck

red-necked spurfowl (= francolin)

2 vervet monkeys

10 waterbuck

2 warthogs

In the cabin, trying to sleep we heard lots of night noises mostly of frogs (I think) and birds. Some monkeys howling now and then.

July 6, Sunday. Awoke to hard rain on the roof. Rain on a tin roof.  
Soggy morning.

Nevertheless we went back out for a wildlife drive, and soon the weather was better.

This time we found the lions. 2 lionesses and five cubs (pix). But the cubs soon disappeared into a bushy area and we could not see them. The lionesses stayed in view some time however. (pix)

Kob and crested cranes (pix)

30-40 kob

male lion at a distance, dark mane  
second lion at a distance

black winged (red) bishop

40-50 kob

30-40 kob

30-40 kob

30-40 kob

10-15 kob

10-15 kob

10-12 kob

12-15 kob

Weather improving, later sunny.

waterbuck

3 warthogs

15-20 buffalo

waterbuck

waterbuck (pix)

yellow-throated longclaw (a pipit, looks like a meadowlark)

11 waterbuck, with only horns showing above rank grass

8 waterbuck

6 waterbuck

4 waterbuck

baboon, mother with an infant (pix).

We drove down a road a bit to look at Kyumbra Gorge = Chambura Gorge.

The Chambura River flows through this gorge. There are chimps in the gorge. Some of the group returned after lunch to hike down it with a guide.

Returned to the lodge for lunch.

Boding storm early afternoon, but it never did rain.

Later afternoon, we went to a bat cave.

About a mile hike in and there was an old lava cave in dense woods. You could hear the bats when approaching. These are Egyptian fruit bats, body size about that of a large rat, or small squirrel.

There were thousands of them, hundreds right at the edge of the cave, and many of them fluttering here and there, seeming at times to be quarreling about hanging space.

Dimly seen, but better seen with flashlight was a huge python (diameter about the size of a small stove pipe), though we only saw two coils, each two feet or so long. You could see its head, and it had a bat in its mouth. Later it ate a second one, though we didn't see how it caught it. Fantastic sight.

Also there were fish eagles not far away as we came in, and the guide said the eagles have learned to catch some of the bats.

Returned. The evening meal was as good a meal as I have had in Africa. Actually tender beef, cooked as shish kabob. A buffet with some excellent food.

July 7, Monday. Up at 6.30 a.m. Nice day. Drive south, toward Bwindi. Cool, mountainous country above the savanna below.

Bananas! Bananas! Bananas!  
Tea! Tea! Tea!  
Eucalyptus trees

Lots of villages, with electricity mostly. Numerous schools, churches.

Coffee trees. Coffee beans drying, spread out in the villages.  
Coffea arabica, coffee  
Some pineapple growing.

Red-hot poker tree, Erythrina abyssinnica = E. tomentosa.

Continuing, we drove a long bumpy ride on dirt roads, something of an endurance test.

Uganda has the dirtiest paper money I ever recall seeing.

Reached Gorilla Forest Camp.  
Nice camp, nice cabin.  
Battery power/generator and very dim light.

Meeting with Missa, park warden in charge of tourism.  
This is a World Heritage Site, over half of the world's population of mountain gorillas live here. A national park since 1991.

The park is for the gorillas, but it is also a water tank. One side flows into the Nile, the other into the Congo.

The area is a genetic bank. There was no ice here during the Ice Ages. Bwindi is one of the most

biologically diverse forests in Africa, due to its antiquity. It dates back 25,000 years, before the Pleistocene.

Rainfall 1,500 mm.

This is an impenetrable forest and yet chimps and gorillas--our closest relatives--are living together here and no place else on Earth. There are no chimps with lowland gorillas.

20% of the park income is remitted to local communities for health, roads, schools, water protection.

To habituate a group of gorillas, trackers follow them for two years. This started in 1992-1994, one hour of being near them a day for two years.

Today there is a 97% success rate for trackers. Nearly everybody who can make the hike sees them.

Habituation allows better study, not biased study. For example early studies (Fossey and Schaller) heard mostly aggressive calls, and missed more or less benign, within-group calls (Harcourt and Stewart in Robbins, Sicotte, and Stewart, p. 242). Gorillas vocalize far more frequently than chimps.

"play-chuckle calls" and "grunts" p. 244.

"Gorilla close-calls are very far from being language-like; they seem to be of the order of complexity of threat displays, as indeed do chimpanzee calls" (p. 256).

Ape and chimp calls do not seem as sophisticated as those of monkeys, something of a puzzle. (p. 258)

Various notes on gorillas.

largest of the great apes.

Gorilla taxonomy. Three species are currently recognized:

1. Western lowland gorilla. Gorilla gorilla gorilla. The most widely distributed, 110,000 gorillas. One group of about 200 is fragmented and called the Cross River Gorilla.

2. Eastern lowland gorilla. G. g. gravori. Numbers unknown, maybe 3,000-5,000, only in the Democratic Republic of Congo. Some say 17,000 in isolated populations.

3. Mountain gorillas. G. g. berengei, 600 gorillas. Mountain gorillas, though fewer, are better studied. They were not hunted, unlike the lowland gorillas, and they can be habituated.

Mountain gorillas have increased fat against the cold, larger nostrils for the higher altitude. Black hair, not brown, presumably more sun absorption.

40% of groups have more than one silverback.

Silverbacks eat 75 pounds per day; females eat 40 pounds.

Celery, thistles, Galium, bambo, roots, bark.

Chimps? Perhaps 110,000, being decimated by deforestation and bushmeat hunting. Most in

Gabon, DRC, and Cameroon.

Bonobos. 5,000. Small, fragmented populations in the Congo basin.

from: Robbins, Martha M., Sicotte, Pascale, and Stewart, Kelly J., eds., Mountain Gorillas: Three Decades of Research at Karisoke. Cambridge University Press, 2001. Karisoke is in the Virungas. Virunga volcanic region, Rwanda, Democratic Republic of Congo, and southern tip of Uganda.

1991 - 220 gorillas were censused here in Bwindi.

1997 - 297 gorillas

2003 - 320 gorillas, two born in the last three months.

There are five habituated groups:

3 for tourists

2 for research

Two habituated groups are permitted 6 human visitors for one hour per day.

One habituated group is only permitted 4 human visitors for one hour per day; this group is smaller.

Total 16 human visitors per day.

People in the Congo eat chimps and gorillas.

Some still believe that a mountain gorilla can be kept in captivity, and the poachers are paid by wealthy persons. There was an attempt at poaching an infant here, but local people reported it, and they arrested the poachers on site.

Baboons and warthogs are classified as "vermin" if they go outside the park, and can be shot.

321 square kilometers in the park. One gorilla per square kilometer, and the carrying capacity of the park is higher, maybe up to 1,000 gorillas.

Females bear from 8-12 years, with only 60% of the infants surviving. The principal killer is disease.

Returning to the cabin, I found a hot water bottle in my bed, and it felt good. Cool nights here.

July 8, Tuesday.

Frosty breath at the Equator in the morning in July!

Breakfast, and out to meet the porters. We each had a porter to carry our camera bag.

Also there are 9 army soldiers, with rifles.

We drove 40 minutes and then on foot through bananas and passed some houses, a steep up and down. We reached the edge of the forest, sharply marked by cutting outside the boundary.

Continued, up hill for a while on a sort of a trail, then bushwhacking, sometimes steep up, sometimes slabsiding.

Then onto a good trail briefly, then into the forest, bushwhacking again.

After about two and a half hours, we began to walk over pushed down bushes where the gorillas had packed down the bushes to make nests. Lots of flies follow the gorillas and the guide said the more the flies the closer we were. Not all that aesthetically positive!

They told us to get our cameras ready.

Within one or two minutes of walking I caught a glimpse of a young one. A black patch in the forest moved! We went bushwhacking a bit further and we could see 4-5 moving, mostly resting, moving around. The young ones were playing with their mothers. I heard play-chuckle calls.

This group has a silverback male, four females, five young/immatures. Total: 10.

Robbins, Sicotte and Stewart use "groups" (not "troops") for the groups.

I took many pix hurriedly and who knows how they will turn out. Changed film and took more. Changed to 80-200 zoom, and these may be better.

400 mm. is too hard to use in the dark, and you don't need that much magnification. I put the tripod on a girl's shoulder (She was a student in hotel management allowed along on the trip.)

I saw the young ones beating their chests three times, though not the silverback.

The silverback was lying down and out of sight, more or less, but his huge foot was sticking up in the air.

They came and went. Hard to get decent pix. The guide did some cutting with his machete to get us something of a better view.

Eventually we got a much better look at the silverback and I took many pix. Hope some of these are decent.

The silverback was huge!

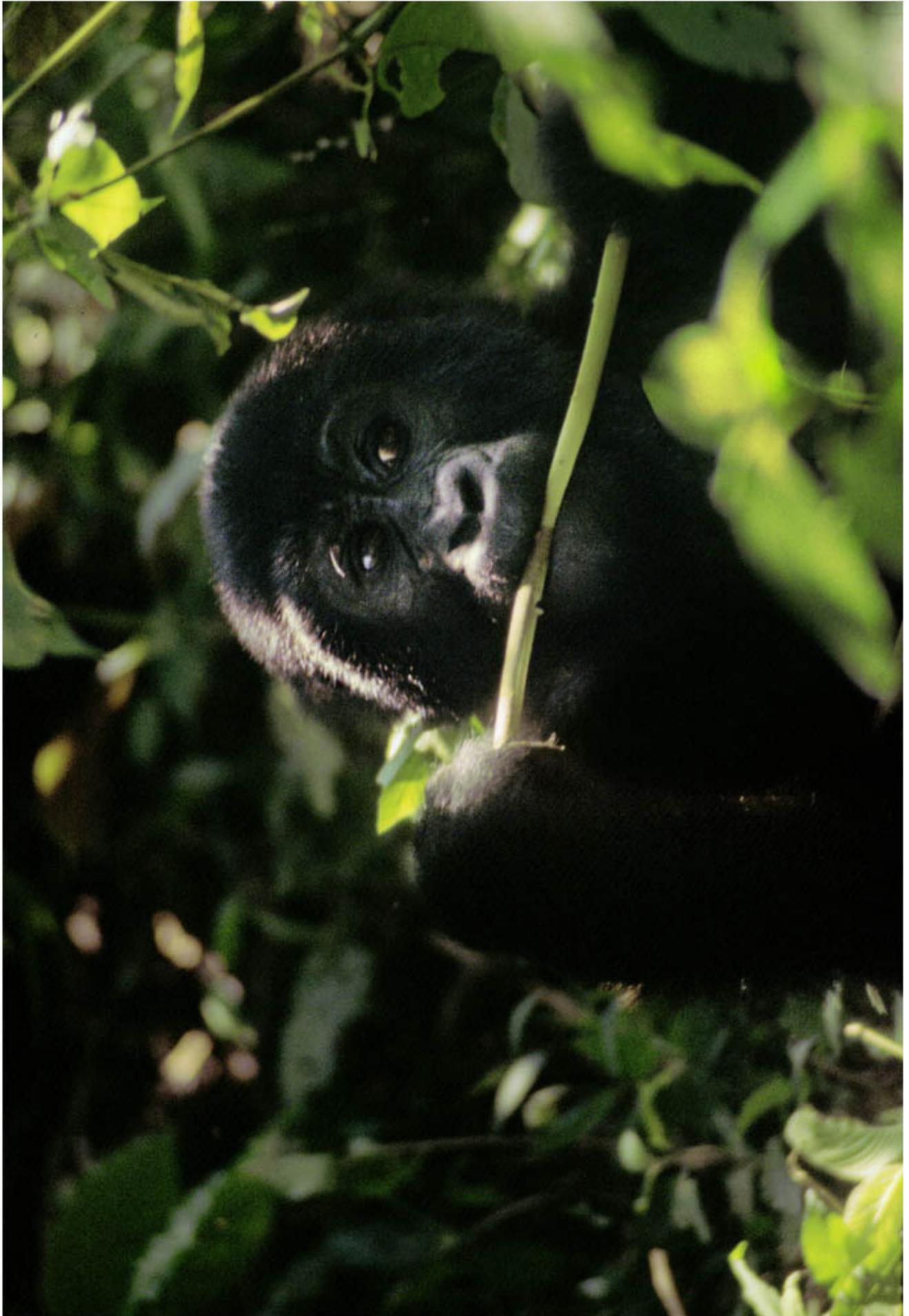
At one point the silverback climbed a tree, maybe 25 feet high, and pulled it down, or it fell over with him, to get leaves to eat.

He spent a lot of time "stem peeling," sliding stems through his mouth, a characteristic way of feeding.

Later the silverback was quite visible, 15 feet away, though dark. The guide said this was the best look at the silverback he had had all week.

Taking his picture was like trying to take a picture of "black" at midnight.

We had to leave after one hour.







Lunch when we were back on the main trail, and then we hiked out a different way. Hike out was not nearly as bad as the hike in. Only about twenty minutes of bushwhacking, and then the trail out was steep at first, but manageable.

On the edge of the reserve, as we hiked out, there were some children selling pictures of gorillas they had drawn. I bought one from a little girl. Lower, hiked out through some banana plantation. an

Out about 3.00 p.m. Sunny all day overhead, but still dark in the forest.

The other group was later coming back than we were.

John Koch (once my room mate) had gotten to be the joke of the group. But he kept going. Here he hired four porters who pushed and shoved him along and he actually managed to see the gorillas.

July 9, Wednesday.

A dark night. You can only see dimly the (supposedly glowing) hands of the alarm clock at bedside.

There is an electric power/battery generator but the lights are so dim you still have to use a flashlight to see to tie your shoes.

Nothing dries. My dirty shirt from yesterday was wet. The T-shirt was still drenched with sweat, and cold to put back on in the morning.

Thanks goodness, no rain. This would have been punishment in a hard rain.

Off at 8.45, and a longer drive to get on the trail. On the trail, we hiked through bananas first but rather soon we reached the forest, first on steep pickup trails and then into the bush.

The guides didn't seem to be able to find them; they said they had lost radio contact with the scouts.

So it took longer and we didn't find them until about 12.00 noon, with all the bushwhacking I wanted. Lots of thorny vines and branches.

Eventually we did find them. I counted 18, quite a number of young.

Again, photography was dark there was virtually no sunlight, although the sky was sunny above the canopy.

They kept moving, not that fast, but we could follow a bit, and in a few minutes they would move further off.

I saw the silverback quite well a number of times, but always moving away from me. (pix).

I did see the silverback chest beat and heard him give the hoot call series.

Halfway through the hour, the silverback climbed a big tree, went straight up the tree, and stayed there. We could make him out only a bit through the trees.



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THE BEAUTIFUL

---

SILVER BACK IN

---

BWINDI FOREST

Gorilla scat often seen. It looks like a cow pile, about that size, but is full of seeds. One gorilla was seen eating its own scat! Again, not all that aesthetically positive! And add the flies.

Black and white colobus monkeys heard.

Baboons heard.

Chimps make nests in trees.

Gorillas sleep in the ground and make nests there (though Briggs guide says they nest in trees at night, p. 15).

Gorillas eat Galium (bedstraw!), rolling it up into a ball to reduce the effect of the hook scratches.

Rather tough hike coming out, steep hillsides. The first half was no trail at all, the second half only a very rough trail and hard on my feet.

But I made it. Coming back I had a seat in the van that was very cramped, no knee room, and I got a leg cramp, but had the van stopped. I got out, and shook it out.

Back about 4.00 p.m.

July 10, Thursday. Headed home. Up at 5.30. Breakfast 6.30. Off at 7.15.

Drove to Ishasha (not be confused with Ishaka, passed coming down). Ishasha is virtually on the Congo border.

Then into the Kigezi Game Reserve and into Queen Elizabeth National Park, the far southern end, and to Isasha Camp, with airport (airstrip) nearby.

About 30 kob

About 20 buffalo, and then, adjacent to the airstrip, a herd of 50 (pix).

Topi, 8-10 nice ones (pix).

The flight back was on a LET 410, a plane made in the Czech Republic. Seats about 30, a twin prop. Since there were only some fifteen of us, the pilot took all our baggage. We had been told to limit to 33 pounds for this flight, but this was a mis-lead. The drivers would have brought back the vans with our baggage anyway.

Lots of haze but you could see the ground below.

Return to Entebbe and Lake Victoria Hotel.

Uganda's major exports to U.S. are:

fish, vanilla, spices, cocoa, minerals, clothes, soap, coffee, pyrethrum (a composite, like chrysanthemum, source of oils, insecticide), flowers. Fish is far the biggest (\$ 3 million), vanilla about \$ 1 million.

200 poachers of hippo and buffalo have been shot and killed in Queen Elizabeth National Park. New Visions, Kampala newspaper, Friday, July 11, 03, p. 10.

Uganda's population is 24.6 million. Nearly half are under 15 years of age. The population is growing at 3.4% per year, or around one million a year.

July 11, Friday. Up at 4.30 for 5.45 departure to the airport. President Bush is on Africa tour, coming to Uganda today, for four hours. My flight to London is 9.20 a.m., and the airport is to be closed for security, 11.00 a.m. to 6.00 p.m. So that's close.

Checkpoint before arriving at the airport. We had to get off and be wanded.

At the airport, they did hand check my 400 mm. film, once entering the airport and once entering the boarding gate.

They cut down banana trees near the road and razed some shacks, but claimed that they were there illegally anyway. But they had been there a long time.

Bush is staying (four hours) in a hotel near the zoo, and Linda (in our group) said she was there yesterday, and they told her that some of the President's party might want to come to the zoo, so they had cut down some bushes so they could see the rhino better.

The government spent 250 m. shillings (\$ 125,000) tidying up the airport, and tarmacked the road from the airport to the hotel for the president.

The exact time of the president's arrival is a closely guarded secret, though he is expected about 1.00 p.m.

Uganda is Winston Churchill's "pearl of Africa," but, as Ugandans reminded us, recalling their struggles, a bloodstained pearl.

Flight over the Sahara, visible but not as clearly as I recall it before. It seems like it takes forever to cross the Sahara, even in a jet plane.

I ran out of reading material and the flight got to be just killing time.

Finally, over the Mediterranean.

Arrived Heathrow 4.00 p.m., early, but not in the hotel until 6.00 p.m. Heathrow was hot and grubby.

It is daylight in London 2 ½ hours longer in the evening and 2 ½ hours earlier in the morning than at the Equator.

July 12, Saturday.

Bright sunny day. Met Rowland Barran and Jack Cassidy for breakfast, to plan some Templeton event in London for fall, probably November. (Event later failed, in favor of Feb.-March UK tour.)

Called Sam Berry, who wants to do something with John Ray Initiative next February.

Flight home, left London 3.25 p.m., though late. Arrived Denver 6.25 p.m., after a 7-hour-stretched day. Luckily made the 7.00 shuttle and got home 9.00 p.m.

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Note on malaria:

Malaria has resurged in Sub-Saharan Africa, where 90% of the deaths now occur. Malaria has been eradicated from southern United States, southern Europe, southern regions of the (former) Soviet Union, much of Latin America, and China. It is easier to eradicate in regions further north, because transmission rates are naturally lower. Some mosquitoes and some versions of the Plasmodium parasite can survive more cold than others.

Mosquitoes carry the parasite, and they have to bite first a human who has malaria and then another human to infect that person. If the biting rate is low, the parasite is not transmitted sufficiently to survive and goes extinct. If each infected person transmits the disease (via biting mosquitoes) to on average less than one other person, the parasite population is not able to sustain itself. The mosquitoes may still be there, but the parasite in it is extinct. (Of course if you kill the mosquitoes you kill the parasite and mosquito control is important.)

In the United States malaria vanished more because of screened windows than anything else, introduced in early 20th century (Budiansky, in Science, p. 86). That broke the biting and transmission cycle.

Science, vol. 298, No. 5591, 4 October 2002, is huge theme issue on malaria. Some extracts in travel medicine files.

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Lloyd's Cam-corder. Sony 120x. Megapixel. 1,070,000 pixels.

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end Uganda

July 21-24., 2003. Bear Lake to Grand Lake, with Phil Cafaro.

July 21, Monday. Phil and I shuttled my Jeep over to park it at North Inlet Trailhead, getting backpacker's permit at RMNP Headquarters en route. (I had previous reservations.) Took longer than I expected. Three great bighorn rams right at the roadside on Trail Ridge Road. 40-50 elk.

July 22, Tuesday, up and off by 6.00 a.m. in Shonny's Camry for Sprague Lake and shuttle to Bear Lake. Road is under construction and you are not permitted to drive to Bear Lake.

Steady climb, with 40 pound pack, and I wasn't fast but I did o.k. Great courtship display of male blue grouse halfway up, seen well and close. Also hen and chicks. Lunched at the junction on top, and then started across the top. Three magnificent bull elk close to the trail, one so close that we were afraid to stay on the trail and got off it a bit to give him room. 8-10 other elk in distance. Some snowfields but not much trouble.

I got fatigued descending the switchbacks, hard on my toes and knees, so I was ready for camp. Camped at July, great campsite. There were rumors of a troublesome porcupine in camp, but we never saw him. Deer in camp, licking nearby where I had urinated.

July 23, Wednesday. Recovered well, and off by 9.00 a.m., descending, good woods, Hallett Creek. At the junction for Lake Nokoni, we headed up that trail, I thought I might go in to Lake Solitude if there was a path. But I wasn't feeling like bushwhacking it. Phil did go in and found Lake Solitude. I returned and head down trail to Big Pool, some showers. More rain after I reached camp, and I unfolded my Thermarest and took a nap under my parka in the rain. Cleared later, a bit buggy.

July 24, Wednesday. Up at off by 8.30 and hiked out to North Inlet trailhead by 11.30. Decent walk, no problem, good woods. Mosquitoes bothersome here and there. Took longer getting home again than I thought. Same three bighorn rams at the same spot as three days before on Trail Ridge Road. Very crowded on Trail Ridge road. Picked up Shonny's Camry at Sprague Lake, and headed home, dropping off her car. Home by 4.00 p.m.

17.2 miles, probably a total hike of 18.5 with the extra thrown in on the Lake Nokoni trail. I did this hike July 13-17, 1970, and wrote the essay, "Lake Solitude" after that trip.

### Bob Marshall Wilderness 2003

July 26, 2003. Left Ft. Collins, 6.45 a.m., with Bill Forbes. Barely got turned around from the Bear Lake - Grand Lake Hike. Also looking at Photoshop editing of gorilla pictures at Instructional Services.

Uneventful drive to Cody, Wyoming. Visited Buffalo Bill Museum. Lots of mementos and paraphernalia. Art Museum, lots of Bierstadt, Moran, and Russell.

Left Cody at 5.00 p.m., to make K Bar Z Ranch by 6.30, on Chief Joseph Highway. Phone 307-587-4410. Operated by Dawna Barnett, P. O. Box 2167, Cody, WY. University of Pittsburgh Geology class here, the one Jennifer Corwin's father used to teach (my former graduate student). She was recently married here.

6-8 deer  
10-12 antelope  
golden eagle

July 27, Sunday. Left K-Z Ranch and drove to Island Lake Campground, Absaroka-Beartooth Mountains.

Found people leaving a campsite and took it, leaving a tablecloth. Then packed lunch at another campsite and took off for Gardner Lake Trail and hiked to Loosecamp Lake (where I was last year), 3 miles, 6 miles roundtrip. down and up and about all I wanted. Trail crosses Tibbs Butte Pass, 10,060 ft.

After supper, drove Beartooth Highway looking for wildlife, but none seen.

July 28. Monday. Quiet night and good weather.

Off at 8.00 a.m., and drove Beartooth Highway to Red Lodge, to get information. We were hoping to drive up the road to Hellroaring Plateau. But an avalanche closed the road, took out a bridge last spring. So we drove the Rock Creek Road instead, 8. m. to trailhead.

Hiked to Glacier Lake, only 1.3 miles but a 2,000 foot climb, and plenty of hike. Lovely lake, enlarged by a low dam at the outlet. Slow hike back, out at 3.34 p.m., and back in camp at 5.30.

July 29, Tuesday. Up at 6.00, off at 8.00 a.m. Almost hit a deer. Drove into Yellowstone.

7 wolves at a rendezvous site near the confluence of Soda Butte and Lamar River. Almost halfway across the valley, but nicely seen in the scope. four black and three grey. The black ones seem to be pups.

Stopped at Lamar Ranch and shaved. Drove to Mammoth Hot Springs and out.

0 elk!  
0 bighorns  
6-8 antelope  
1 osprey.

Drive north and reached 7 Lazy P at 6.00 p.m.

July 30, Wednesday. Up at 6.30 a.m., breakfast at 8.00 p.m.

The group:

Warren Vaughn, M.D. at Mechanicsville, VA, in small clinic.  
Sandy Elliott, his wife, nurse. She married first: Nelson Elliott, pastor at Burkeville, Va, then they were in the Congo as missionaries for three years, then he was pastor at Samuel Davies, near Richmond. He died of cancer in his forties. She keeps former married name. Son: Tom Elliott in National Park Service in San Francisco area, interested in botany.

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Carolyn Jordan - from Mass., plays guitar  
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WFL101334@yahoo.com

Trip leader. Dave Hovde  
229 Washington Blvd  
Great Falls, MT 59404  
hovdedave@hotmail.com

Wranglers  
Andy Soldano, younger  
Norm Schertenlieb, older

Cook: Raylee St. Onge  
off about 10.30.

Wolf willow

Black bear seen across the draw, above the falls.

Over Route Creek Pass, down Route Creek, past Ninemile Park (where we camped in 2000, after lightning strike had ignited the forest towards Wrong Creek). Past Tenmile Park and then long ride into Wrong Creek, the last part of it through a 1988 burn, regenerating well. Camped at Wrong Creek. There is a fixed camp here. Table and green canvass roof over it. This site is licensed to Blixrud, who uses it as a hunting camp.

Ride 13 miles, and a sore bottom!

July 31, Thursday. Up at 6.00 a.m. Cool

Rode through 1988 burn again for an hour and a half, and then a 2000 burn on top of the 1988 burn (and the burn that stopped us in 2000).

Eventually reached good lodgepole forest. Lunched at Round Park (here the Continental Divide Trail). Then rode over Sun River Pass, 6,251 ft., a low pass, entirely forested. You would never know you were at a pass but this is the Continental Divide. Two good piles of grizzly scat at the pass.

We rode by enormous stretches of Menziesia ferruginea, False-Azalea. Another main ground cover is Thalictrum occidentale, Meadow Rue. Also lots of Hedysarum sp. probably boreale, Northern Sweet Vetch, which I don't seem to have identified in 2000.

Rain and sometimes frozen slush, and rode in slicker most of the afternoon. Rode to Basin Creek (where we camped in 2000). Weather cleared and pleasant evening.

Ride 10 miles.

August 1, Friday. Layover Day. Pleasant morning.

The others climbed the mountain I climbed in 2000 (then to see fires in the distance), but I walked up Basin Creek and tested out my boot overshoes, waders. They work well, but the plastic ski tube extension leaks some.

It got to be tough going in the thick willows, and I lost the tip to my Trek'r pole. Creek sometimes too deep to wade in.

Lunched in the shade under a spruce tree.

Marchantia polymorpha, in fruit.

Returned and took good bath and shampoo in the creek.

August 2, Saturday. Left 10.30. Rode to Grizzly Park, then to Gooseberry Park, then up 17 switchbacks to Trilobite Lakes. Late arrival in camp, 6.45 p.m.

Nice camp and scenic location.

Deer in camp.

Clematis hirtusissima, Sugarbowls. Not seen in flower, but in the striking fruiting heads, upturned and with a swirl. Pix in Phillips, Northern Rocky Mountain Wildflowers.

Light rain in the night. Ride 12 miles.  
More sore tail, but otherwise o.k.

August 3, Sunday. Overcast. Hike up Trilobite Peak.

Good climb over pickup trail, to saddle to the south, then walked up the ride, curved on west, at edge of cliff face, and to top. Rough at the top. Left camp about 10.00, on top about 12.30. Good view from the top on both sides, but hazy and limited visibility. On the whole an overcast day.

Golden eagles seen soaring, first above us, and then after we climbed more, below us. So we were "above the eagles!" Summit, 8,245 ft., climb maybe 2,000 ft.

Brachiopod fossils seen on top, like a Shell Oil symbol. 2-3 inches across. Brachiopods were (and are) a phylum of rather small marine animals with an external shell of two pieces, known as valves. Between 200 and 300 kinds are still living. They are also extremely abundant fossils, especially in Paleozoic rocks, and of particular interest to geologists. The shell resembles a clam, but the likeness is purely superficial. Carl. O. Dunbar, Historical Geology, 2nd ed., p. 464, on hand.

Lots of Dryas octopetala, Mountain Avens, above treeline.

Blue, maybe Franklin's Grouse, nicely seen on way up.

Descent steady, mostly Bill and I trailing the group alone, and slow. Only about half the group went all the way to the top. This was all the hike I wanted, maybe five miles but good climb, steep, and rough in places. Returned 3.00 p.m., and I took a bath in the lake and then napped.

Cool in the evening.

Barrow's goldeneye hen and five ducklings on the lake, nicely seen in the evening on a quite scenic lake with Trilobite Peak above. Saw her and the chicks well both evenings, and mornings too.

August 4, Monday.

August 5, Tuesday. Cold day. Rode in fleece and slicker.

Lots of hurry up and wait. Packing 6-7.00 a.m, and gear out, tent down, breakfast at 7.00, then wait 8-10.30, while the packers pack. Often a line for the "blue room" (toilet).

Lunch at Dean Lake, cold, in rain gear.

Rode over Switchback Pass, some climb but not bad. There are some 30 switchbacks coming in the main way, but we joined the trail mostly already up toward the pass. This is the Continental Divide, and we are now back on the east (Gulf) side.

We passed some backpackers off and on, more backpackers than horses.

We spent some time on top with clouds coming and going, but no rain. Grosbeaks seen on top. Lake Lavale seen below (pix). Nice views now of the North Chinese Wall.

Descending, we walked the horses down a half mile, then mounted and then dismounted and walked some more. Clearing up, it was quite scenic below the Wall.

Reached Lake Lavale, and rough campsite. A group of backpackers had the site we were hoping for. Lake Lavale is lovely lake. No evident drainage, though springs below were seeping from the lake.

Spent the night on a tent site with too much beargrass.

As usual, deer in camp, licking urine.

Ride today 10 miles.

August 5, Tuesday. Cold packup at rough site, through the sun was soon in camp. Others had seen goats above Lake Lavale and Bill and I walked up after breakfast, with a rough walk around to the other side in search of trilobite fossils. No trilobites and no goats seen.

The Bob Marshalls is not a place to see much wildlife. Certainly it is no birding hotspot; few birds seen.

(pix) of Hahn's Peak with Bill's horse turned sideways. Hahn's has stone pylons on top.

Lunched at an area beneath Hahn's Peak, with an area of striking recent blowdown, 25-30 trees.

Rain in the afternoon, and rode most of the afternoon in slicker. We also rode through three and a half miles of burn. The combination of burn and dark clouds made for a spooky forest.

Reached Sock Lake, and camped below it. (I never saw the lake.)



Ride 10 miles.

From Switchback Lake, there is a 15 mile ride straight down the North Wall (which occupied us a day and a half, Switchback Pass to Sock Lake).

Rain at supper, and we managed pretty well, but the rain got harder and we went to bed in hard rain, fighting to stay dry. We had to put a clothes pin on the bottom flap to avoid a leak where the bottom zipper and the vertical zipper met. It rained hard 2-3 hours while we were in the tent in sleeping bags, by now cozily tucked in.

I got up at 3.30 and stars everywhere, not a cloud in the sky. Mars was quite striking on the horizon above the Wall. Mars is at its "all time finest." It is closer to the Earth than it has been in 60,000 years--if by only a little, closer to the Earth than ever since prehistoric times.

Haeckelia (=Lappula) floribunda. Many-flowered stickseed. Sticking to pants on aborted hike to Sock Lake.

August 6, Wednesday. A little cloudy getting up. Layover day.

Bill and I and Andy hiked to a saddle, then to a summit, Lookout Mountain, for a magnificent view of the wall further south. I took a panoramic series of 4-5 shots, swinging north to south. The high red mountain beyond the Wall is one of the Three Sisters.

But a gathering storm, and then a thunderbolt struck, with lightning and thunder only a few seconds apart. So we hurried back to the saddle and waited out the storm.

Then we made our way around closer to the Wall, with some stone pylons (pix), where Bill wouldn't get any closer.

Larix occidentalis, Larch, Tamarack. Maybe L. lyallii, Subalpine Larch.

Then more rain, and returned.

We ate a bit of lunch at the saddle and the sun came out, and we descended back to camp.

Franklin's grouse, hen and three chicks well seen.

Nuthatch calling.

Later in the afternoon, Bill and I tried for Sock Lake, but failed. We thought we were on the wrong trail, as it was too steep, but it later turned out that was the right one.

Bill and I returned and searched for another trail, one to the lake at the end of a flat pasture. A false lead.

Two young bucks in camp.

Threatening rain for supper, but rain never materialized.

They like to run all geldings in the riders' line, no more than one mare, but they have two on this trip.



Else the males are too upset by the females, even when not in estrus.

They tie mules together with rope including a "fuse," a 3/8 inch rope with one strand cut out, so it will break if one mule rolls and the others won't be pulled over.

August 7, Thursday. Sunny day, cloudless sky.

We rode out, first through great spruce woods. Magnificent forest. Passed a big avalanche chute and enormous down trees. Pileated woodpecker calling. Franklin's grouse.

Then we rode through 1988 burn the rest of the trip to Headquarter's Pass (reached next day).

Lunched at Gates Lake in the only shade we had seen for miles. One other horse party of 6-8 riders, the only one seen on the trip.

Short, but hot ride into dry camp, flat, some shade trees, much burn around in Gates Park. Ranger (Guard) Station here. There is a manned Ranger cabin, and airstrip and Gates (airstrip now little used; they favor helicopters). Talked to the ranger; there are fires on the west side (Holland Lake area, more or less). That part of the Bob is closed.

Went up to the Ranger Cabin after supper, looking for elk who were rumored to come to some salt for the horses. But our horses were belled and noisy; no elk seen.

Hard rain in the night.

August 8, Friday. Ride out over Headquarter's Pass. Clear blue sky. Frosty breath.

Clear all day, some high clouds. Rode through too much 1988 burn, and I got tired of riding burn. But some good regeneration. (pix).

Beartop Mountain seen with fire lookout (manned).

Lunched at the base of the pass in a nice area. Nanny and kid (pix), seen at close range. She was, presumably, looking for urine.

Then a spectacular ride over Headquarter's Pass, as steep as I want to ride a horse.

Descending, we took a rest stop at a notable big spring, the start of the S. Fork of the Teton River (and shown on map). Five goats, only 100 feet off.

Out at 5.00 p.m.

Total ride 75 miles.

We drove down the road with Dave Hovde (the others were in a van), and waited fifteen minutes while the horses and mules were driven down the road, and cut into a trail from which they would make their way back to the ranch the next day. We watched a great galloping of horses and mules, excited by the return and the promise of rest and green grass.

Cottontail rabbit.

For flora list, take the one from 2000 trip, and add new ones here, though a few seen in 2000 not



seen in 2003.

Drive to Great Falls, and stayed in Heritage Inn.

August 9, Saturday. Lewis and Clark Interpretive Center.

25 white pelicans on Missouri River.

15 antelope.

Drove to Billings and then Hardin. Stayed at Hardin, MT., Super 8. Quite satisfactory. Pizza supper.

August 10, Sunday. Drive home. Scattered antelope all day.

Home at 2.00 p.m. Drove 1900 miles.

In Montana, south of Great Falls, we passed endless fields of rye, wondering exactly what it is. Used for malt liquors. I brought home some and keyed out rye at home. There are three single flowered spikelets at a node, with the middle one sterile.

William W. Forgey, ed., Wilderness Medical Society: Practice Guidelines, 2nd ed., 2001. ISBN 0-7627-0671-6

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end Bob Marshall trip

Aug. 26, Tuesday. Took a look at Mars from the front porch through the telescope, closest in 60,000 years! Could see that it was a planetary disk, but too much heat waves in the air to make out any detail.

Aug. 31, Sunday. Hike down Lone Pine Creek, with Cafaro and graduate students.

Rod Adams and Amy Yackel Adams. Jake Neely and Dawn (she keys out mosquitoes for Control Disease Center). Dave Newman, new (and temporary) logician. Left CSU Library lot about 7.45, and drove to Cherokee Park Wildlife area and left one car there. Then drove in two cars through Red Feather and around to the Maxwell Ranch (where Cafaro had gotten permission to enter). Hiked down N. Fork of Lone Pine Creek. Had been raining hard the night before and rainy several days before, and we had a rather scenic start with sun and clouds and then some showers and some bright spots off and on all day. Generally the landscape was as green as I have ever seen it this time of year, and quite scenic.

About two and a half miles down we saw a sow bear and three small cubs up on the hillside, moving up the hill and away from us, but clearly visible for several minutes. Nice sighting and this could be the first bears I have seen in Colorado!! This has been a wet year and the chokecherries are laden with cherries, often drooping over with their weight. Bears have been eating them and we saw huge piles of bear scat throughout the day, filled with chokecherry seeds.

There is off and on and old road, variously on one side of the creek or the other and not always easy to find, often degenerating into a more or less path across grassy areas. Some creek crossings a bit problematic and eventually I got my feet wet, in the afternoon. After three miles or so you pass to National Forest Land for most of the rest of the trip, though the latter part is on State Land.

At noon reached the Lone Pine School site, with collapsed buildings. Here S. Lone Pine Creek (crossed on footbridge) joins N. Lone Pine Creek, and they become Lone Pine Creek. As near as I can tell from a bit of research a few days later, this was the Campbell Grove School said to have been "located on the Lone Pine about eight miles west of Livermore" (with some confusion about a Yokey school which was n.w. of Red Feather near Black Mountain). Carrie Williams Darnell in Three Ranch Children (mimeographed book at Ft. Collins Public Library, 1966) recalls attending this school. She says water was dipped from a spring which flowed into the North Lone Pine a few rods from the schoolhouse.

She also says Lone Pine Creek was not a particularly appropriate name for the creek, but that it was named from a fine lone pine which grew near the end of the stream before it flowed into the North Cache La Poudre. She says that the N. Lone Pine in dry summers would go dry but that the S. Lone Pine never went dry.

She reports wolves preying upon their cattle.

Lunched nearby at a rise in the road.

Passed two horse parties. Passed a packer, one man, with three goats that were carrying his gear. Wildflowers quite nice.

Afternoon a pleasant, sometimes rainy, sometimes rather scenic hike out, though by the time I was out my left heel was getting sore. Otherwise did o.k. You leave the road and come out on a mere

foot trail, though well used and clear, that comes up over the hill, across it for half a mile, and down to the parking lot.

Sept. 26-28, 2003. Trip to Steamboat Springs and Dana Shires home.

Friday. Left Ft. Collins 1.30 p.m. (after dealing with Giles) and drove up Poudre Canyon. Lovely aspen. Over Cameron Pass, through Walden, and aspen was absolutely spectacular over Rabbit Ears pass. Lovely day. Reached Dana Shires multi-million dollar home outside Steamboat about 5.30. Coyotes howling when we went to bed. Dana's landscape is Gambel's oak, and in great red color. I hadn't realized Gambel's oak was this far north, and am surprised I hadn't spotted it on the Steamboat landscape before. But there is lots of it.

Saturday. Seven deer on his lawn, several young bucks. Nice rough-leg hawk in close to his house. Rode a huge horse, Ace, up Sydney Peak, a low hill, with Debbie, Dana's current wife, and Suzi, Jackie Shires daughter. Jackie and Suzi were there from Atlanta. Decent ride, lovely scenery. Ace was big draft horse, a foot and a half taller than most horses. I mounted with a stool and doubt I could have mounted unaided. They couldn't find a Western saddle that would fit, so they used an English saddle, with no pommel to help mount. Flushed about 8 sharptail grouse in one group.

Saturday evening visited the Steamboat Springs, not all that much, tepid water, not hot, with one vigorously bubbling pool. Then dinner in a fancy restaurant. Tested out Dana's night vision binoculars in the dark. They do indeed show what is not visible otherwise, but not at all that much distance.

Sunday. Sharptail grouse on his lawn. Drove home, gorgeous day and gorgeous aspen. 25 bighorns, females, at roadside and up an adjacent hill halfway down Poudre Canyon.

Nov. 2, 04. Walk in rainy Michigan woods, with Nils Peterson and wife. Spinoff of a trip to speak at Michigan State University, East Lansing. Drove to Grand Ledge, MI, 15 miles west (a sedimentary cliff on the Grand River). Peterson is graduate student in Fisheries and Wildlife, recently come here from Texas A&M. Originally this was to have been a canoe trip, but rained out, hard rain off and on mixed with lighter rain. Went to where the woman had canoes to rent, but she had gone, thinking we would not show due to rain. So we walked nature trails in Fitzgerald Park, often alongside the Grand River. Wet woods, leaf colors, especially the yellows often still quite good. Beech, oak (Red oak?), sugar maple, some birch. Understory of Virburnums, Yahoo bush, and other stuff I did not know. Some hemlock. Some good trees and a lot of second growth. Recently fallen leaves underfoot still colorful (and wet!).

Nov. 8, 03. Great eclipse of the moon, about 6.00 p.m. Low in the eastern evening sky, clear. Full moon seen well faintly with an arc about like a new moon in full light. But soon disappeared behind a cloud.

Nov. 17, 03. Trip to desert cactus/riparian area near Phoenix, Arizona. I spoke at Arizona State University at lunch at Grand Canyon University that evening for Barbara Small, Templeton Prize director. Cottonwood Creek area, near Lake Pleasant, visible 3-4 miles in distance. Host for the hike: Frank Hensley, teaches biology. He is graduate of Wake Forest University and did graduate work at University of Georgia, Savanna River Ecology Lab. Early pickup, 6.00 a.m. Drove about two hours, nice drive. Great Giant Saguaro cactus (pronounced sah-WAH-ro) along the road.

Parked and walked maybe two hours along scrappy trail. More Giant Saguaro cactus. Eventually reached an intermittent creek, which always has some pools. They have done some studies in this

riparian area. Fishhook cactus (there are several species). Barrel cactus (again, there are many species). Catclaw acacia. Black-throated sparrow. Pencil cholla (Cylindropuntia arbuscula?). Cactus wren. Curved-bill thrasher. Cholla = Cylindropuntia; there are many species. Prickly pear. Hedgehog cactus. Creosote bush (= greasewood). Teddy bear cholla. Heard feral burros on the way out.

Dec. 26, 2004. Drove to Allenspark for 50th wedding anniversary of Cleon and Betty Kimberling. About two dozen bighorns 40 yards up on side of Big Thompson Canyon, but we didn't have much time to look or circumstances, due to traffic, and all I could see were rumps.

## Trail Log 2004

Jan. 5, 2004. Very cold, -4 degrees on back porch (using the new wireless thermometer). We haven't seen below zero temperatures for several years. This was also the day I took the Jeep in to get satellite radio installed in it.

Jan. 15, 2004. Day in Rocky Mountain Park, alone. Hiked to Alberta Falls in the morning, an easy hike over packed snow. Nice day. 40-50 elk in Moraine Park at a distance. Returned, and lunched at picnic table past Cub Lake Trailhead. With 6-8 magpies anxious for handouts. 1.2 miles.

In the afternoon, hiked Gem Lake Trail, not getting on it until about 2.00 p.m. More of a climb and over often icy trail than I expected, but nevertheless I made it. Ski poles helped a lot. Three 8-point bucks, mule deer, just a few feet away on the trail, both going and then again returning. Out a little after 4.00. 2 miles, 4 miles roundtrip. Thus a little over 5 miles for the day.

Jan. 24, 2004. Visit to NASA's Johnson Space Center, Houston, TX, with Larry Nyquist, and Carlton (=Carl) Allen, curator of the moon rocks, and his wife, Jackie. Nyquist was the person who identified a meteorite from Antarctica as being from Mars which others claimed had evidence of life in it (not now generally thought plausible). Visited the area where moon rocks are kept and saw some (though they are kept in a very sanitary lab and I only saw them through glass).

Afterward visited the Houston Space Center, a public attraction. Saw there:

(1) Faith 7 Mercury, May 1963, module seen. There was a single astronaut aboard orbiting the Earth.

(2) Gemini 5, Aug 1965, was the first space walk. Module seen.

(3) Apollo 17, was the last moon landing. Command Module, America, seen

Dec. 1972, this orbited the moon, there was a lander. Apollo 11 was the first moon landing. Nothing from it seen.

Feb. 6, 2004. Friday. Nice adult bald eagle flying over I-25, as I was driving south Timnath, to speak to Presbytery on "The Bible and Ecology," and I incorporated the experience into the talk. "Is it at your command that the eagle mounts up, and makes his nest on high?" (Job 39).

Feb. 7. 2004, Saturday. Spoke to American Scientific Affiliation at Colorado School of Mines, Golden, with afternoon tour of NREL, National Renewable Energy Laboratory. Impressive array of instruments monitoring solar radiation, with reference to better use of solar power and global warming. Impressive labs for designing various better ways of catching solar and wind power. The solar collectors on the two spacecraft currently on Mars (recently landed in January) were

designed here, and we met the researcher who designed the film surface that collects the light and transforms it into electric energy. Also a solar furnace, a super magnifying glass that concentrates sunlight in several cascading sets of mirrors until they have a point source that is 25,000 times the power of normal sunlight--which they use for experiments, to melt materials, etc.

Feb. 8, Sunday. A skunk, or family of them, is living under the front porch. The odor is frequent about the house. We saw one coming across the porch in the night, by the porch light, looking out from indoors. But it was small, half-size of an adult, and why are their small skunks this time of year?

### **Templeton Prize Lecture tour - UK**

February 26, 2004. Wednesday. In course of UK tour, at Oxford, at a dinner given for me, I ate sitting across from Sir Roger Bannister, who, in his youth, ran the first four-minute mile in human history. On May 6, 1954, fifty years ago this year, he ran the mile in 3:59.4. He was 25 years old. He said, famously, of his record-breaking: "It's the ability to take more out of yourself than you've got." Some interesting conversations with him about that event. He became a neuroscientist of considerable distinction in later life, and was knighted in 1975 for his outstanding medical service and his chairmanship of the United Kingdom National Sport Council. He was master ( = principal ) of Pembroke College, Oxford, and chair of a neuroscience department. He has had with a lot of interest in the science and religion interactions and whether and how far neuroscience could contribute to this discussion. He has now had two hip replacements, though he walked well and looked good.

February 28, 2004. Walked in gardens of St. John's College, incredible with tens of thousands of crocus in bloom, and also perhaps a dozen other spring flowers (jonquils, snowbells, forsythia, and lots of things I didn't know). And it is still February, and this was a rather cold day.

February 29. Exeter. Lovely day, first at the Cathedral, ancient, older parts of it since about 1000 A.D., and earlier Christians on this site since Roman times, then taken by Mark Wynn to Hound Tor on Devon Moor (nearest town Moreton-Hampstead), an interesting rock outcrop, above grazed landscape, long-grazed but now with a sense of antiquity blended with nature. Good lighting in the evening and a biting wind added to the moor atmosphere. Sense of antiquity in both culture and nature, blended as the two were.

March 7, 04. Aberdeen. Mary Dower (wife of Nigel Dower) took Jane and me south to Stonehaven and Dunnottar Castle (where I first was in 2000). Drove through Portlethen, village on the sea, where they have a cottage, inherited from their family, and on to Stonehaven and Dunottar. Mary spent a lot of time here as a child and is now with the Scottish Visitor information service. Nice day, though a little cold and castle variously in partial sun and in foreboding shade. Lots of gulls and fulmars, jackdaws, but by no means the millions of birds seen in the summer. Drove back through Banchovy and more inland. Picturesque country, and at times considerable snow lying on the hillsides. But gorse is often in bloom.

## Taiwan 2004

March 25, 2004. Thursday. Beautiful flight over Mt. Evans, Guanella Pass and peaks west of that.

1.00 p.m. American Philosophical Association, Pasadena, seminar on my work.

March 26, Friday. Lunch in my honor, present: Cafaro, Steve Kramer, Mark Woods, Geoffrey Frasz, Clare Palmer, Chaone Mallory (was at Univ. North Texas, now a Ph.D. student at Univ. Oregon), Frank Cassa (Bates College).

7.00 p.m. Leave for LAX. 11.38 p. m. take off. Singapore Airlines

March 27, Saturday. Crossed the dateline and skipped this day.  
13 hour flight over an ocean I never saw.

March 28, Sunday. Arrived Taipei, 5.40 a.m., and met by Tzu-Mei Chen, my principal host for the trip, and Tom Yeh, elder in the Chinese Rhenish Church, and an accountant. Tzu-Mei is employed with the Ecological Stewardship Group, Presbyterian Church in Taiwan.

Overcast and a little rain.

I was taken by car to the Genesis Conference Center, One World Community Services Center, No. 219-2, Sec. 3, Chung-Hsin Road, Shin-Dian City, Taiwan, a suburb of Taiwan, though to all effects in the city. Run by Roman Catholics, but lots of conferences go on here. Napped a couple of hours.

12.00 noon. Taken to a wedding dinner, quite elaborate and first rate LCD show recalling the earlier days of the couple getting married. Good food.

3.00 p.m. Met by Jy-Cheng Liu, environmental engineering, studied University of Delaware. Went to Shishanhan Archaeology Museum. This is an archaeology site discovered while unearthing for a waterworks. They built a museum on the best part of the site, although they also built the waterworks. The site was also found from compass anomalies from military aircraft, due to the large amount of iron here, due to former smelting of iron at the site. They are pleased to find that their remote descendants in the north of the island could smelt iron.

Taiwan had no written history prior to the Dutch in the 1700's, despite their nearness to China. The iron site functioned in the period 200 A.D. to 1500 A.D., dating somewhat uncertain.

The shops nearby are sometimes so brilliantly lit inside with flourescent lights that you virtually need sunglasses in them at night.

Dinner alone in the hotel restaurant. Noodles. But I seldom ate later in this restaurant; the food was all the same and no good.

March 29, Monday. Toured the Taipei Botanical Gardens, led by Hu, Su-cherng, watershed management division, Taiwan Forestry Institute. The botanical gardens is a sort of city park next to the Forestry Institute. But it is a legitimate botanic gardens and some research goes on

here.

Afternoon. Met with translators and set up for the conference tomorrow.

Joined during the day by Nancy Victorian-Vangerud, who runs a retreat center 60 miles north of Minneapolis. She went to Vanderbilt Divinity School and is originally from Texas. She flew in today. She taught in Perth, Australia, for five years in a theology department, on ecofeminism. Her husband is finishing a Ph.D. at Murdoch University, Perth.

Riding the subway regularly now. Called MRT, Metro Rapid Transit. Excellent subway system. You can't eat, smoke, or chew gum!! on the subway.

My station is Ta Pinglin = Dapinglin. Use exit 2.

March 30, Tuesday. Conference at Taiwan Forestry Research Institute. Moderator: Lin Mao-shin, quite a bird-watcher, and with the Taiwan Wild Bird Association.

I spoke on "Justifying Sustainable Development" in the morning. Simultaneous translation.

The second speaker was King Hen-Biau, Director-General  
Taiwan Forestry Research Institute  
53 Nan-hai Road  
Taipei 100, Taiwan  
hbking@serv.tfri.gov.tw

In the afternoon speech by Rei-shang Wang  
2 Fl, Alley 49, Lane 119, Tong-hu Rd.  
Taipei 114. Taiwan, R.O.C.  
rshang-wang@msa.hinet.net

She was the translator of the Taiwan version of my Environmental Ethics, and Hen-biau King arranged for its publication. She is editor of Fem bookstore (= Feminist, I think). Gave a talk on environmental literature in the U.S.

Formosa, an earlier name for Taiwan, is "the beautiful isle."

Wu Yi-Lin, the woman who was my translator today (and steadily for the rest of the trip), with the pock-marked cheeks. Excellent English, doing an M.A. in English.

Ke Dein-yi. The young man in the Society of Wilderness, whom I got to know better later.

The dry season here is November to April. The wet season is May to October. But it is already raining.

March 31, Wednesday. Second day of the conference at the Forestry Research Institute.

I gave lecture, "Enforcing Environmental Ethics."

Jung-Tai Chao, research scientist and deputy director, Taiwan Forestry Research Institute, my

translator later in the day. Studied entomology at the University of Georgia.

Chung-Ho Wang, Academia Sinica, Institute of Earth Sciences, gave a detailed talk on the hydrology of Taiwan, surface runoff, groundwater and contamination and prospects for solution. His field is isotope hydrology.

Wax-fruit, or bell fruit. I ate half a dozen in the room.

April 1, Thursday.

Went to town and bookstores, and electronics mart.

Book:

Natural Beauty in Taiwan. Nicely done, big coffee table book, in Chinese and English.

Planning Council for Cultural Affairs, Executive Yuan, Introduction to Potential World Heritage Sites in Taiwan. ISBN 957-01-4422-X. 2003

Hsu, Jen-Shiu, Wild Formosa. Taipei: Yuan-Liou Publishing Co., 2000. ISBN 957-32-3933-7. Lovely coffee table book by the founder of the Wilderness Society of Taiwan.

In the evening, talk to a full room at Dept. of Physics, National Taiwan University.

Shin Wang, Dept of Geography, National Taiwan University. Ph.D in geomorphology from Columbia University. He came to the evening event and made a little pitch for his classes. He teaches two courses here: Man and Environment, a low level course. Nature and Environmental Thinking, an upper level course. Half the course is Chinese and half Western, and he uses some of my materials. He was very cordial. Good English. Send him some articles. He has both translations of my Environmental Ethics into Chinese.

April 2, Friday. At Fu Jen Catholic University.

Louis Gendron, S. J., main host for the day.

Frank E. Budenholzer, met him once before at Star Island IRAS conference years ago.

Yen-zen Tsai, History and Religion, National Chengchi University, the other university that joined in on the Friday at Fu Jen Catholic University. He and some others were present.

Spoke twice, once in morning to a larger group, and then a seminar in the afternoon.

April 3, Saturday. Raining hard at daybreak.

Metro and train, visit to Ilan = Yilan, a two hour train ride, and museum, archives of Taiwan's struggles to become a democracy.

Taiwan is building a long car tunnel under the mountains and the rock has proved very hard. Also they encountered a major aquifer that just overwhelmed the workers and flushes out to waste. The train presently goes around to the north and then turns back south. This will be circumvented by the tunnel, which will make for lots more and easy traffic on the east coast (and leaves many doubtful about the wisdom of it all).

Taiwan has bears and a wild boar.

The Pacific Ocean off the coast of Taiwan is very deep.

Pacific coast seen from the train.

Visit to museum, Taiwan Tsunah Foundation. Taiwan Democratic Movement Museum.

On Feb. 28, 1980, a mother and her twin daughters were stabbed. The opposition lawyer Lin Yi-haiung, a member of the Taiwan Provincial Assembly, was in detention for his alleged involvement in a Kaohsiung incident. He was beaten, interrogated, and threats made to him about his family if he revealed that he had been beaten.

Feb. 27 he met with relatives and the next day they were killed.

Taiwan has only surprisingly recently become a democracy, the 1990's.

Taiwan was under martial law longer than any other country in the world, from 1949 until 1987. Chang Kai-shek fled there from the Communists and brought his government. They had no elected members of Parliament for 40 years, but simply carried over members who had fled the mainland. They kept up the myth that they were a government in exile, and would return to the mainland, also the myth of a military emergency.

2-28. Feb. 28, 1947 (before Chang Kai-shek, but under a deputy of his sent to govern the island), there was a big protest and demand for reform by elite Taiwanese. Some 10,000 to 30,000 were killed, against an inept governor appointed by Chang Kai-shek. CKS himself fled to Taiwan in 1949.

Cattle egret

Great egret

April 4, Sunday.

Hsien Tien City (= Hsinten = Shin-Tien). Halfway sunny day in the morning and overcast all afternoon.

Pitan (Green Lake) = Bitan.

Caught MRT to last stop south, a town with a river front green lake. Mangrove thickets along the way.

Swinging bridge across the river.

Preached in Shin-Tien Presbyterian Church, to 125 people. Quite good music. Taken to lunch by the pastor and an elder.

After lunch, rode MRT to the other end of the line, to Danshui = Tamsui = Tanshui. 20 km. n.w. of Taipei on Tamsui River. Once the largest port of Taiwan.

This was the site of Fort San Domingo, from the Spanish in the 1600's and the Dutch. Later the British Consulate was here. But we couldn't see it; it was closed.

We walked around to a Presbyterian Church and former hospital founded by George Mackay (1844-1901), a Canadian medical missionary from 1872 onwards (tho he was earlier from Scotland). Also Alethia University and Oxford Hall and other schools the missionaries founded.

April 5, Monday. Start of the trip to the natural areas, lasting several days.

In the group:

Wu Yu-Lin, my interpreter, with pock-marked face, lovely girl

Lo Im-Shen, girl who designed the poster for my trip

Lin Yao-kuo, the naturalist and "photographer"

Ke Dien-Yi, President of the Wilderness Society and made his living doing computers, some router by which lots of keyboards could work on the same computer. He had spent some time in Canada.

Left 7.30 a.m. and MRT, then train north and round east again to Ilan.

Saw Turtle Mountain Island = Kueishan, seen nicely off the coast. Tree ferns in the forest. Betel nut trees.

Reached Ilan and took cars to Fu Shan Rain and Mist Forest and Botanical Gardens. Arrived about lunch and met by Han-Ming Yu, director of the gardens and forest. Taiwan Forestry Research Institute, Fushan Research Center. I signed his copy of my Environmental Ethics in Chinese.

Hen-biau King, the Director-General of the Taiwan Forestry Institute, Taipei, at the conference last week (and who arranged for my Environmental Ethics to be translated into Chinese in Taiwan) seems to have sent ahead to these people and told them I was to get VIP treatment.

We walked all afternoon around the botanic gardens, which are semi-wild, and surrounded by wilderness.

Bird's nest fern, Asplenium nidus. Lots of it and quite attractive in its own way, perched on the sides of trees.

Cycas revoluta, a native cycad

black bulbul, glimpsed. Makes a cat-like call, heard.

Lycopodium.

Selaginella.

Podocarpus. Like a large-leafed hemlock, introduced from Japan by the Japanese and now often established here.

Tsuga formosa. a hemlock, seen.

Yew. Taxus meirei Taiwan yew

Yeh-Ching Liu et al, Trees of Taiwan, 1994

Calocedrus formosana, cypress

Chamaecyperis formosensis,

little grebe

Metasequoia glypto  
Metasequoia stroboides

Nuphar shimadai, Yellow water lily  
Mandarin duck on the pond

Walked down a road/trail and saw two barking deer. Muntiacus reevesi micrurus.

Returned a bit, walked down a trail toward a river, and saw 12-15 macaques (Macca cyclopsis). 3-4 adults and 8-10 yearlings and infants nicely seen, in part from a boardwalk, with them coming and going beneath us. Watched them half an hour.

Coot  
Common moorhen  
Mandarin duck - spectacularly dressed and nicely seen.

Lots of great tree-ferns.

Cyathea leptifera. tree-fern that sheds lower leaves and has a bark said to be like a snake. Snake tree.

Cyathea podophylla. tree-fern that has lower leaves bend down when dead like a skirt.

Vittaria flexuosa, fern with long thin drooping leaves, epiphyte.

Barking deer heard from the place where I am staying.

After supper, in the dark, we went back up the road and saw a flying squirrel. They caught its eyes in their flashlights, and I got my binoculars on it and could indeed see that it was a squirrel. Saw it jump once. The director names it as Formosan Giant Flying Squirrel, Petaurista philippenis. (Genus, not species in Walker's Mammals, possibly = Petaurista petaurista).

126" of rain per year here, relative humidity typically 88%. A little frost maybe two nights a year.

Editorial Committee of the Flora of Taiwan. Huang, Tseng-Chien, editor in chief. Flora of Taiwan, 2nd edition, published across ten years, 1994-2003, in six volumes. Published by Department of Botany, National Taiwan University.

Vol. 1, 1994. ISBN 957-9010-52-5

Vol. 2, 1996. Angiosperms. ISBN 957-9010-92-4

Vol. 3, 1993. Angiosperms, Dicots ISBN 957-9010-41-X

Vol. 4, 1998. Angiosperms ISBN 957-02-3131-1

Vol. 5, 2000. Angiosperms, Monocots ISBN 957-02-7534-0

Vol. 6, Checklist. ISBN 957-01-3492-5

All seen in their library.

The Japanese much planted Cryptomeria japonica, in Taxodiaceae, a yew.

April 6, Tuesday. Left Fushan and drove back to Yilan.

Stopped to see a field of yellow peas, Crotolaria pallida??

Reached Forestry Station.

Chamaecyparus formosensis  
C. obtusa

Drove to Yuan-yang Lake Nature Reserve. Lunched at entrance, then walked in.

Maybe a mile walk. Nearly in was the densest forest floor of overturned roots and moss caves that I have ever seen. Rhododendron formosanum, big trees, makes a huge root system.

Sparganium fallax endemic and rare here, seen  
Rhododendron chilanshanense = mariesii. Endemic and rare here.

Lycopodium clavatum  
Lycopodium complanatum

Ching-I Peng and Wen-Pen Leu, Guide to Plants of Yuanyong Lake Nature Preserve 2003. ISBN 957-015377-6

Drove out another wooded road.

Pleione bulbocodioides, One-leafed orchid. Marvelous orchid, seen on roadside, an endemic species. Some of them were wild, and not so far off on another roadside they had planted some. (pix in the photo book they sent me.)

Dendrobium moniliforme, another orchid high in the trees, a white one, quite striking, and in the same area.

Then a long drive, supper at Nanfangeau, and night drive down the coast road, with many trucks. Reached Tianshiang = Tiensiang about 8.30. Stayed in Youth Activity Center.

April 7, Wednesday. Taroko National Park.

Up 7.30 a.m. breakfast (getting tired of Chinese food, especially their breakfasts). Then out for a walk on Baiyang (=Paiyang) Waterfall Trail. There is a tunnel carved into a cliff, 380 meters long. Flat floor and easy walk, though dark in the inner parts, need a flashlight. Once this was to have been a hydro project, but it was abandoned to save the gorge. Great gorge. Liwu River.

Returned and met our guide for the day. Sandra C. Yu. She did an M.A. in business in London. Excellent English. Drove down the gorge (which I had come up in the night the evening before). Spectacular sheer cliffs, marble and gneiss, and a spectacularly cut road, literally carved into the cliffs. Walked the Tunnel of Nine Turns, the former road. Again a spectacular gorge, the steepest and narrowest I have ever seen (surpassing those in China).

Lunched and then hiked Shakadong Trail (= Mysterious Valley Trail), a walkway cut in the cliffs.

Returned and had cordial meeting with Teng-Lang Yu, Secretary General (the chief) of Taroko National Park.

[Later, there was an earthquake in Taroko National Park, May 3, 2004, 13.56 p.m., Scale 7,

cracked open one of the roads.]

Drove out and south to Hualien. Ke Dien-Yi, President Wilderness Society, and Lin Yao-kuo, naturalist-photographer, and Lo Im-Shen, designer of the poster, went back to Taipei on the train.

Picked up in another car, supper, and proceeded to Yu-Shan Theological College and Seminary, stopping by to see lightning bugs. There are 50 species in Taiwan. We saw them light in the dark maybe two dozen times, and caught one or two in our hands.

Found room in Yu-Shan Theological College and Seminary, in a sort of dorm for visiting persons.

Chen, Nan-Jou, Christian ethics, came a little late and talked to me.

Lots of frogs croaking outside the room, even made it difficult to sleep. There are some ponds nearby, originally diggings made anticipating some construction, which failed, and now they have filled with water and been turned into ponds they think are important for conserving these frogs, a landmark of the institution.

The Atayal people, a tribal people, long had facial tatoos. The boys got one on their forehead when they were about 12. At 19 after they had killed an enemy, and cut off his head to prove they were brave, they got a tattoo on their chin. The women had tattoos across their mouth and cheek. They claimed when they died they couldn't be recognized by their ancestors unless they were tattooed.

But they have abandoned these customs--thank goodness. The Japanese banned the custom.

Daniel Yin-Er Cheng, Presbyterian Church in Taiwan, met me and then flew back to Taiwan. He will be my translator next week.

April 8, Thursday.

taro - big leaves growing in water. They eat it. Taro, also called dasheen, Colocasia esculenta, Arum family, Araceae, (monocot). Large leaves, grows in water in warm regions. The large central corm can weigh up to six pounds, and produces many smaller tubers. Starchy and makes a substitute for potatoes, nutty flavor.

Betel nut = Betel palm. Aretha cathecu. Saw them all over the place, but they are bad news. People chew them and get addicted to chewing them and they ruin their teeth.

I spoke to about 50 pastors at a Catholic Retreat Center in Hualien, on Bible and Ecology. These were aboriginal pastors.

Cheng Yang-en, History of Christianity at Yu-Shan Theological College, met us after lunch and took us to Chin-Hsin-Tan, Seven Star Lake, a tidal bay. Good wind, too much to stand up in long, and good breakers. We drank goat's milk coffee in a restaurant overlooking the sea.

4.30 we caught a train to Luyeh and were met and taken to Bunun Tribal Arts Center. Dinner at a Hungyeh Hot Springs Restaurant, now operated by the center. American Negro driver and host who had taken up with the aboriginals at the center, claimed to be making a documentary

film about them.

April 9, Friday.

At the hot springs area, a service of reconciliation between the Bunun and Bei-Nan tribes, and I had to make a sort of greetings and speech. They pour rice wine into two halves of a stick half cut across and then two people drink together each from one half of the stick.

Ching Hsi Liu, professor National Taitung University, and a sort of ecologist, was my main host for events for the next few days, later drove us south.

Dancing and songs in an 8-part harmony, so-called.

The people here, especially the men, more often than not have teeth stained and much deformed from chewing betel nuts.

Later, and at a covered but open-sided theatre, their dancing and songs, traditional but performed to the accompaniment of a vigorously played electronic piano!!!

One couple here:

Li Msiao-Ching (Carol Li), Tamkung University English Department (north of Taipei)

892010025@s92.tku.edu.tw

She was a girl in black leather coat, attractive, doing a Ph.D., maybe comparing Rachael Carson with Taiwan nature writers.

She was together with

Yi David

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The two seemed more or less together, maybe partners.

Tsu-Mei didn't know them. But they had somehow found me out here, though both are from Taipei.

Lunch was provided by the Bunun tribe. After lunch, a nap, then all afternoon at this "ecological site" of the Luan-Shan tribe, a former lake the Japanese put in for water for rice, now abandoned, which they think is a biodiversity area. Rather wearisome ethnobotany and too long a subsequent dialogue by a fire sitting on bamboo logs.

We went to see a huge tree, probably Ficus virgata, that was quite spectacular, with aerial roots now trunk sized.

Drive to Jrben (=Zhiben) at Chippen Hot Springs. We failed to be able to open the door of a condominium and so they put us up in a hotel, Dong Tair Spa Hotel.

April 10, Saturday.

Pineapple Buddha fruit.

We went to another aboriginal site, of the Pei-Wan tribe, this time stopping at a shrine on the way in to placate the spirits. The "chief" and now "priest" was pouring rice wine to placate the spirits. He was to drink out of one end of a foot long bamboo stick, and I was to drink out of the other, to show that we were friends and I was acceptable to the tribe, and the local goddess

would welcome me in the area. In the midst of pouring the rice wine, his cell phone rang and he had to interrupt the ceremony to answer it. A curious mix of reverence, superstition, and high technology.

Visited millet field.

There was a wildlife biologist along briefly, who did not stay. Jen-Jium Perng, Institute of Wildlife Conservation, Pingtung University. There is, maybe now extinct, a Taiwan cloud panther. His students set some cameras to see if they could photograph any. Some of these students (I think, maybe some others) disappeared, and the locals claimed they had angered the spirits.

Passed a Formosan national security guard to the area, with a radio, so it seems to have both government protection and the jealousy of the local gods.

From the outdoor meeting, fireplace site, we walked up a trail they claim can become an ecotourist trail. But some of the trail you can't hike; it goes to a waterfall with demons under it!!! Nevertheless a nice hike and I got to see some reasonably wild woods. Turned back at a waterfall (not the one with demons!!)

Returned to meeting site, and another dialogue session, seemed endless.

Returned and drove out. Drove along coast. Pacific and Green Islands, seen in distance.

Reached a Roman Catholic site of some sort, with rock paintings depicting aboriginal myths of their origins and lands. A second dialogue session today, another endless session.

The rivers are not particularly attractive. The bed is wide grey rock flood washes, with a little water somewhere in it.

Reached Taichung (=Taitung).

We went to an archaeological site, Peihan Cultural Park. Of note: three stone coffins, facing the sacred mountain, Dulan Mountain. This site is from 5000-2000 years before the present. There are some rather major excavations here, still ongoing.

Cycas taitungensis, endemic to this particular region. A planted specimen seen in the archaeological site.

Dinner with 5 pastors in a Japanese restaurant. Very cordial, though some spoke English poorly. These are the pastors involved in tomorrow's service.

Spent the night in some rooms on the 4th floor of the Christian education building adjacent to the Keng-Seng Presbyterian Church.

Rev. Liu Chun-Seng, pastor and host

April 11, Easter Sunday

Walked to a Catholic hospice with fabulous orchids in the garden.

Preached to 600 persons at Easter service, held jointly at National Taitung Senior High School. Good music. Well worked out.

Huei-Hsin Huang, National Taitung University, teaches science education and some science and religion. He has my science and religion book. Ph.D. in science education from University of Iowa.

Afternoon, talk at Austranesian Community College, out in the yard. "Sustainable Development and a Sustainable Biosphere" Talk 3-4 p.m., questions 4-5 p.m. Too long. Some sort of meal afterward, they had been cooking while I talked. Eating flying fish soup and bamboo shoots.

Drove north along the coast to Chenggong (means success) = Sin-Gung (= New Port).

Stayed in a room at the New Port Presbyterian Church. Pastor Tseng Cheng-Chih, who was one of the pastors cooperating in the Easter service.

April 12, Monday.

Drove along the beach road north. A few water buffalo. Nice surf, and some striking dark rocks, with white surf over them.

Three Immortals Terrace (= Three Sansiantai). Striking island off Beishoulian, and bridge has been built there, also striking.

Passed memorial stone to founding of a Presbyterian Church in 1877.

Stone umbrella, a big column with an overcap like a mushroom.

There are some world-class sapphires taken from this area.

Lovely surf and the road was often right along the surf line, 30 yards away.

Baishan Cave Area. A touristy area but also a museum to the aboriginal peoples. Met Young-jen Chang, the Director of the East Coast National Scenic Area. There was an opening ceremony dedicating part of the museum to the Anis fishing culture, and again, I had to make some remarks at the opening ceremony. Several newspaper reporters present.

Lunch, on a deck, with not much I wanted to eat.

After lunch, walked up to the cave areas. The "caves" are large recesses in the cliff walls. We walked to 11 caves, with more steps to climb than I wanted, and most of them ruined by funky Buddhist shrines. Changbin Cave, 25,000-50,000 years ago. Artifacts discovered here, the oldest in Taiwan, discovered in 1968.

Roar of the surf was nicely echoed and amplified in the cave openings. There is good weather out at sea and on shore, but the tops of the mountains remain ominous in dark clouds.

This is slightly below the Tropic of Cancer line.

Crested serpent-eagle (= snake eagle) nicely seen on telephone post, white on fore neck.

This region is comparatively little populated. 3% of the population lives in Hualien and Taitung

Counties, but this is 20% of the land area of Taiwan. Still seemed to be plenty of people there for me.

Flew back to Taipei, 55 minute flight. Back in hotel 7.00 p.m.

April 13, Tuesday.

Lazy day, doing nothing and trying to recover from a hoarse throat. Did e-mail.

4.30 train to Changva.

April 14, Wednesday.

Spoke to about 500 commissioners to the General Assembly, Presbyterian Church of Taiwan, on the 12th floor of a hospital. The room was dedicated to a Scots missionary, who did a skin graft from his wife to an injured boy.

Pam Hasegawa, some woman who spoke to me and said she would send stuff. Does adoptions, international adoptions??

Caught train back to Taipei.

Palace Museum in the afternoon, and fitting for the tailor-made suit.

More trouble with an increasingly sore throat.

April 15, Thursday.

MTR to Pei-tou Hot Springs, north of Taipei and still quite urban. Met by Huei-Tsyr Chen, Director, Pei-tou Association, who gave me a lot more than I wanted. He was proud of how he and the community had restored the springs area. There is a sizeable hot springs, as big as two swimming pools, and heavily steaming. Otherwise, mostly ruined by the development--piped the water into hotels, outdoor bathing, and so forth. Water is strongly acidic, ph 1.2 to 1.6. Big media shows, more than I thought the place was worth, but this is their idea of mixing nature and culture.

The Japanese first developed it, thinking the water therapeutic. There is weak radium radioactivity in it. There is a big city-park style area with lots of trees, and they teach the school children to know trees here.

A mineral found here is hokutolite, really just a thin film on rocks. It is a radium salt, and was formerly found on some of the ruins, but is avidly collected.

There was prostitution here after World War II, with American GI's fully participating--and a photo once in Time magazine. But that is illegal now.

Spaghetti for lunch and MRT to a jewelry store. I bought to Taiwan sapphires, one for Jane, one for Shonny, loose stones.

Drove in car for two hours to Taogum, southwest of Taipei, then to Dashi. The car was a high-tech car will all sorts of gear that I had never seen, lights warned you in the rear view mirror if

you were speeding or approaching a school zone, or photogenic site. I spent the night in the village of Fushing in the mountains. This was in an overly ornate "hotel," once the home of the parents of the present manager. There were highly carved wooden and metal sculptured seats and quite uncomfortable to sit in. I ate a pork and millet thing steamed in leaves--barely edible.

I am still hoarse and got a sore throat and some tendency to be a little cold. Also I hate these rooms where you have to take your shoes off and walk a round in slippers that are way too small for my big feet. Only about two thirds of my foot goes into the slipper.

They are solicitous and pushing all kinds of herbal medicine at me that I didn't want to drink, claiming it would cure my cough.

April 16, Friday.

I conducted a seminar in Dashi, working it out of "Christians, Wildlife, Wildlands," for about twenty-four pastors, a few schoolteachers, from aboriginal tribes. A school teacher there was Pasang, Presbyterian Bible College.

My hoarse voice made speaking rather difficult, but I did it.

There was a very fancy dinner at a local restaurant, a Japanese restaurant, but I couldn't eat the stuff--octopus, eel, and all that. The shrimp were o.k.

We left after lunch and drove back in the high-tech car, and glad to get back to my room, where I crashed, fighting a cough.

April 17, Saturday. To Guandu Nature Park.

MRT, then bus, and met a bunch they had gotten together, notably Lin Mao-shin, the big birder who was the chair of the two day conference at the Forestry Institute at the start of my trip. He is quite good with birds. Another birder there was Benjamin Hsieh-Chang Hsiao, Wild Bird Society of Taipei, who spoke quite good English.

The Guandu Nature Park turned out to be a somewhat derelict wetland on a river, with the city on all sides, but the low areas around the river "preserved." We walked down a concrete dike mostly along a mangrove swamp, and then into some woods with ponds and blinds.

Bidens pilosa -- a weed everywhere, introduced from Japan. Composite, white ray flowers, yellow disk.

Grey heron -- 10 or so

Little egret - 15 or so

Black crowned night heron - 4-5

Vinous throated parrot bill (vinous = wine-colored)

Then we reached an amphitheater of sorts, and I gave them a talk (from "From Beauty to Duty" to fifteen people.

Walked back and went to a large Nature Center and Bird Observatory building, with a restaurant, elevated and overlooking the wetlands (and city in the not so far distance). The Park is owned by the Taipei government, but run by the Taipei Wild Bird Society. My host here was

Lingi Wu, Director, Guandu Nature Park, spoke good English, an attractive young woman.

It took forever eating lunch, and we had to have an introduction to the park by the Director.

Returned and picked up the tailor-made suit, and back to hotel.

More cough remedies I didn't want pushed at me, some kind of oil on my face and neck--a homeopathic medicine made in California!!

Crashed, still fighting cough.

April 18, Sunday.

Spoke at Mong-Ka Presbyterian Church to about 400 people, struggling to get enough voice to speak. This is Tzu-Mei's home church, and she translated. Cordial reception and again 4-5 cough remedies pushed at me that I didn't want. But at least they are concerned.

I tried to sleep, fitfully, in the hotel room most of the afternoon. Dry mouth.

7.30 p.m. Pickup for Chaing Kai-shek Airport, and I am more than ready to go home. Take off, 10 hour flight.

The ground day is 12 hours, and when you fly into the sun, you cut the day to 6 hours. So though the take off was midnight (= almost Monday, April 19), we flew through a day and arrived at nightfall. And you cross the dateline and live the same day twice.

April 18, Sunday. Arrived Los Angeles, 8.30 p.m.

April 19, Monday. Left Los Angeles, 8.00 a.m., arrived Denver 11.18 a.m. Home about 1.00 p.m. Tired of rice and Chinese food. Tuesday, went to the doctor and diagnosed with some pneumonia, and on antibiotics for the next week.

end Taiwan

April 23-June 1, 2004. Washington and Lee University, Lexington, VA

April 23, Friday. Left Ft. Collins in light snow, heavier snow around Denver and east, but roads manageable. Further east turned to rain, but rain continued virtually the whole trip east.

Night at Junction City, Kansas.

April 24, Saturday. Drove in rain all day, often hard. Virtually non-stop driving in non-stop rain. But by Illinois, Indiana, and Kentucky, the woods were quite pretty, great spring green with new leaves putting out, great dogwood in prime, great redbud.

Night in Louisville, so-so motel. Rain.

April 25, Sunday. Through Huntington, and on to Lexington, reached Lexington about 3.00 p.m. Nice woods and sometimes dry. We ate a picnic lunch outdoors at the wayside at the Virginia line, first time the whole trip we could eat outdoors.

Moved in to the home of Richard Marks, 6 Jordan Street, Lexington. Old house but variously renovated and great sun porch.

April 26, Monday. Got located on campus. Lovely spring colors in the woods.

April 27, Tuesday. Met class first time, 14 students in environmental ethics. 5.00 p.m., Roanoke, flew to Portland, Maine, or so I thought, but got stranded in Cincinnati, OH, that night and flew up next day.

April 28, Wednesday. Lecture, University of New England. Flew home.

April 30, Thursday. Met class. Christopher Preston drove up from Univ. South Carolina, Columbia, and he, Jane, and I drove to Staunton and Hebron Church and cemetery.

May 1, Friday. Drove out to Rockbridge Baths with Christopher and Jane. Reminisced about Bethesda Church, drove through Goshen Pass, lunched at Goshen, turned round, came back, hiked up Laurel Run trail perhaps an hour. Nice spring flowers. Good trilliums in the pass. Spring beauties. Anemonella.

May 5. Drove out to Rockbridge Baths with Ann and Billy Bryant. Drove up the Guy's Run Hunter Access Road, about 4 miles, excellent gravel with a pothole now and then. Found all the trails as indicated on the map. One deer. One turkey. Also located the Blue Hole swimming area in the Maury River, below the Devil's Kitchen, and marked it on the map. Trilliums even better than last week.

May 6-9. Davidson trip. Spoke there Friday. Drove to Greensboro Saturday a.m. Stroll that

afternoon along a trail on edge of Lake Jeanette on north side of city. Rather good running cedar.

May 12, Saturday. Rip Rap Trail.

Drove to Afton (where 64 crosses Blue Ridge) and entered park. Foggy start and then clear and sunny day. Found the Rip Rap parking lot (milepost 90) and set out. Chestnut shoots (Castanea dentata). No pubescence on undersurface of leaves as Chinquapin has (Castanea pumila).

Ovenbird heard.

Towhee heard.

Chestnut-sided warbler heard.

Wood thrush heard.

Lots of pink flame azalea (Rhododendron calendulaceum) in great blossom.

Polypodium. Moosewood = striped maple (Acer pensylvanicum)

Yellow star grass (Hypoxis hirsuta).

Starflower (Trientalis borealis). 5-10 leaves in a whorl at summit and white flowers above that. Lovely. Several patches of several hundred.

Trailing arbutus (Epigaea repens). Not much and not seen in bloom.

Wild yam (Dioscorea sp.). Not seen in bloom.

Partridge-berry (Mitchella repens)

Reached the junction with the Wildcat Ridge Trail about noon. Passed Calvary Rocks. Not a bad descent and trail in good shape. I was looking for ruins of the old Rip Rap shelter, but couldn't find any sign of the former shelter, though I looked around quite a bit. As it turns out I was looking too far down. Lunched on a big tree root by the stream.

On return I did find the old Rip Rap pool, nice pool, with even a bit of rope hanging from a high tree to swing from. Looking on the Crimora quadrangle (1965) (used on earlier hike in), I see the pool and shelter were further up from the junction than I recalled. Pool (and then shelter) is even shown on the topo map.

Hike out was tougher, and climb in the midpoint left me tired with a little tendency to cramp. Up top it got better. Out at 3.45 p.m. 8 miles roundtrip, and with some prowling around a the bottom I'll call it 8.5 miles. Feet did well, though I am out of shape; too much traveling all spring, and this was all the hike I wanted.

I was in Rip Rap June 27, 1973, when I slept in the shelter with a great rain on the tin roof. Earlier I was here as a child with daddy, coming in from below (I think). In high school I was here on a camping trip with George Ritchie and his Explorer Scout troop. I had no sleeping bag and I recall lugging down a "bear rug" to stay warm in.

May 15, Saturday. Goshen Pass with Julia and Gray. Jane spotted a magnificent Yellow Ladyslipper Orchid, Cypripedium calceolus, roadside. First one I have seen in many years.

Chrysogonum virginianum, Green and Gold, up Laurel Run trail. Visited Branner Tolley and walked down to the Maury River below his place. Pawpaw in here.

May 19, Wednesday. Guy's Run trail with Danny Welsh. Intended to go up the Guy's Run Hunter Access Road, which was open Saturday, but today it was locked out. Maybe because spring turkey hunting season is over; maybe because there was six inches of rain in the Pass in the last few days. The ladyslipper orchid of May 15 was still there but nearly gone.

Returned to the Swinging Bridge and hiked up the Guy's Run Trail across the road south and up. Decent but narrow trail at first, then climbs steeply, then comes out on an old logging road, rather flat and easy walk for the rest of the day. Good woods, though the spring flora is past. Reached the gravel Hunter Access Road that I had driven up May 5 with Ann and Billy.

Saw chestnuts in fruit (last year's fruit on the ground, perhaps a dozen of them) and also chinquapin in fruit, sometimes last years hulls still on the bush. Studied all this and the chinquapin leaves do have a whitish fuzz underneath, though it takes a lens to see the detail of the hairs, and if wet this can be difficult to see. The chestnut leaves are glabrous, and greener undersides. Otherwise similar, though the chestnut leaves tend to be longer and longer-pointed.

Some of the chestnuts were good sized, trunks maybe 5-6 inches in diameter. Danny Welsh took pictures of a couple of these trees and sent them to the American Chestnut Foundation website: [www.acf.org](http://www.acf.org). Later, I looked around on that website.

One good doe, looked quite pregnant. One small (8 inch) brown snake. Heard overbird, towhee, vireo, woodpecker, loud like a pileated. Arrowwood, Viburnum dentatum. Lots of Trailing arbutus. Acres and acres of blueberries. Lots of Deerberry, Vaccinium stamineum, different in that the flowers are open urn-shaped and not the closed bells of blueberries. And the shrub is waist high. Fruit has to be cooked to be edible.

Lots of blackgum, Nyssa sylvatica, which I had to recall. Shiny leaves and fruits (still green) were two on a 1.5 inch peduncle (in var. biflora), though apparently three is more common.

May 22, Saturday. St. Mary's Wilderness. East of Steele's Tavern in St. Mary's River drainage in George Washington National Forest and runs up to Blue Ridge Parkway. Map says it was established in 1984 and is the largest national forest wilderness in Virginia.

I first went in from below, to Vesuvius, and Forest Service Road # 41 to parking lot. But this trail was much damaged in fall 2003 by hurricane Isabel, trail often washed out, and this eventually made it rougher going than I wanted. I had thought I might get to the falls. Some parts of the trail still good and I hiked in maybe a mile and a half.

Squirrel corn (Dicentra canadensis), same genus as Dutchman's breeches.

Lots of Wild Sarsaparilla (Aralia nudicaulis), both here and in the later part of the hike up above.

Stonecrop (Sedum ternatum)

Golden ragwort (Senecio aureus)

Returned and drove up to Tye River Gap and got on Parkway. Lunched at Fork Mountain Overlook, trailhead is right across parkway (between mileposts 22 and 23) and walked in same trail from above, Mine Bank Creek Trail, descending perhaps a mile, again in Saint Mary's Wilderness, reaching water. Good woods and no problem with the trail here.

Lily of the Valley (Convallaria majalis) in fruit, not flower. Marked rare in Gupton and Swope's book, Wildflowers of the Shenandoah.

Dame's Rocket (Hesperis matronalis), roadsides on parkway. Big purple mustard, like an overgrown wallflower.

Drove back down Blue Ridge Parkway to Route 60, Buena Vista and back to Lexington. Nice turkey, well seen from parkway, crossing the road in heavily wooded area.

May 23, Sunday. Went to New Providence Church, Raphine, VA, and looked up the tombstone of Archibald Campbell Rolston, born July 28, 1896, died August 16, 1896. Some trouble finding it, but got help there and eventually located it. This was my grandmother's first baby, born in Horton, West Virginia, in the mining camp where granddaddy was a home missionary. In a famous family story, granddaddy put the dead infant in a horse and buggy and drove 70 miles in one day to bury it at New Providence.

Four people at the church remembered daddy at Bethesda, then in Bethesda Church, one a daughter of Bob Blackwell, Doris? (now Mrs. Walter R. Lunsford), recalled playing with Julia. Two sisters, daughters of Kite Wade, and one of them recalled helping mother with her children, so I met my babysitter!

Drove up on the Parkway again, as yesterday, but now with Jane, and ate a hamburger I had bought in Steele's Tavern.

Sweet cicely, Osmorhiza claytoni, with odor of licorice.

One turkey, crossing road, again--one seen yesterday. Hard rain shower, but then cleared.

May 24, Monday. Drove to Harrisonburg and Cook's Creek, with Jane. Met Dorothy (Dolly) Cardwell and her mother. Met Lucy Rolston (= Sarah Lucy Rolston, daughter of William Crawford Rolston (1917- ) (=Billy, also met him later in the day at his home), son of John Hopkins Rolston (1893-1984), son of Charles Hopkins Rolston (1860-1934), Daddy's Uncle Charlie.

Drove out to Uncle Frank's place, and visited with the woman now living there, Linda Eagle Heatwole (Mrs. Dick [George] Heatwole). Walked over to nearby site of John Hopkins Rolston, father of Holmes Rolston, now only trees and some piles of stones.

May 28, Friday. Hiked James River Face Wilderness with Greg Cooper, Washington and Lee. Hard rain in night before and raining when we left. Drove to Natural Bridge, Natural Bridge Station, and up Arnold Valley, thence up road (# 781) up East Fork Elk Creek to trailhead. James River Face Wilderness was in the original Eastern Wilderness Act. There is now another wilderness adjacent to it, Thunder Ridge Wilderness.

On foot up Belfast Creek Trail to Devil's Marbleyard, a huge field of granitic boulders, surprisingly there in otherwise good woods. Rain continuing off and on. Lots of galax (Galax aphylla) in good bloom, and I had not seen any earlier this trip.

Carolina hemlock (Tsuga caroliniana) in here, and also Eastern hemlock (Tsuga canadensis). Carolina hemlock has longer needles and they more nearly come out all around the stem (cf.

Doug fir), and are not so flat as Eastern hemlock. Pretty evident difference.

Continued the climb to join Gunter Ridge Trail and then perhaps half a mile to junction with the Appalachian Trail, where we ate lunch with a curious and good-sized doe looking us over. No rain, remained overcast.

Frequent chestnut shoots and some good sized trees, the largest maybe four inches in diameter. Found fruits twice.

Sweet Fern, Comptonia peregrina.

Red-spotted newt (Notophthalmus viridescens), in the red eft stage, which is a terrestrial or dry-land stage of an otherwise amphibian salamander. Nicely seen on a log and a striking red.

Lots of chestnut oak in here, which has an easy leaf, like a chestnut but without points. On the whole a fine day, and my legs did well, despite the slick rocks.

Frequent hard rain during our stay, usually afternoon but often at night. Often sleeping in the upstairs bedroom with rain on the roof, kind of pleasant way to go to sleep. Hard rain the night and morning we left, so much so that I was troubled to get the car packed. Rabbits in the yard, including young rabbits, and Jane saw one young rabbit nursing.

May 31, Monday. Left Lexington 11.30 a.m., after posting grades and coffee with Greg Cooper. Drove to Huntington, WV.

June 1, Tuesday. Drove from Huntington to Booneville, MO. Blowout in Louisville, KY, right on I-64 in town, and I crept along a half mile to safety, then got a tow truck. Got a used tire which did the rest of the trip o.k., and I got a new tire replacement back in Ft. Collins. All told, wasn't too inconvenienced.

June 2, Wednesday. Drove from Booneville, MO to Ft. Collins, long drive, 12 hours. Total mileage from Lexington 1,604 miles. Decent weather the return trip, though especially Missouri and Illinois had had some severe weather and some killed in tornados. Standing water in cornfields along the way.

June 3. Thursday. Led hike for International Society of Environmental Ethics to Loch Vale.

Day after I got home from Lexington. Drove to Allenspark and joined the conference in progress at Highlands Presbyterian Camp. Took 17 of them via cars and shuttle bus to Glacier Gorge trailhead, thence on foot to Loch Vale. Good hike, not much out in wildflowers and aspen leaves only half out at start and hardly out at all at the Loch. Sunshine all the way up despite gathering clouds on some of the horizon. Rain started halfway back and cold rain. Steady pace up, and almost rapid pace out. 8-10 elk, 6-8 mule deer en route in car. 2.6 miles x 2 = 5.2 miles.

June 29, 04. Picnic on Storm Mountain, with Jane, Shonny, John, and Alex. Made the trip because Storm is the mountain you can see from Shonny's house. Off about 10.15, drove to Drake, up Cedar Park road, on toward Galuchie Park, and got lost. Drove on the wrong road, not paying enough care to the maps, and ended at the turnabout loop near La Cambrita cottage (marked on map). Returned, got instructions from man running a motor grader, and made the correct turn in Galuchie Park, which is onto a much lesser road (but marked on map (brown recent cabin, edge of meadow, but no signs). The open part of Galuchie Park is mostly really above this; you soon cross a U.S. Forest Service gate (open) and get into Galuchie Park proper, where there are no private holdings.

Drove on toward Foggy Park, on as much 4WD road as I like, stopped on top for fine picnic. We set up the folding table, chairs, etc. Nice weather so far but threatening rain made us worry about getting to the top. Drove on to Foggy Park, parked at the spring (still there, somewhat messed up) and set off up the hill. Steep climb, and weather coming in, but we made it (Jane turning back). You could see the plains from the top, or viewpoint a little below the top. Horsetooth Mountain clearly visible. We stayed on the top (or, more accurately, slightly below some rocks that are the top) only momentarily because of storm and possible lightning. Rain on the way out, and one good thunderbolt somewhere up top as we got back to the Jeep. Especially nice columbines.

Home about 5.00 p.m., with some mixed dry spells and showers. I was here December 18, 1994, spent the day trying to find the Storm Mountain Trail. I was here in June 1978, backpacking via the Bear Gulch Road from Masonville. I got "Becky" (old Green Chevy) stuck on Cedar Park Road up from Drake on March 24, 1970.

July 9, Friday. Trail Ridge, alone. Typical day, but lovely weather, lovely clouds. Walked up to the Toll Memorial. Lunched at Lake Irene picnic area. Returned to Milner Pass and walked about a mile down the Cache La Poudre River trail. Two elk out in the meadow. About 50 elk seen up top on Trail Ridge Road. Rumps of two bighorns lying in the grass at the Sheep Lakes in Horseshoe Park, then one young ram seen nicely on the hillside, but with a collar and red paint on its side, from the researchers. Ruins the aesthetics.

July 17, 04. Up Fall River Road with Fred Johnson. He wanted me to see Chionophila jamesii, Snow-lover, something like a Penstamon, about timberline, which he had seen the previous week, but when we got there he couldn't find it. Left about 8.00 and drove to Fall River Pass Road and stopped off and on going up. Most interesting site was one with Twayblades, Listera cordata, in good blossom. Also there was Northern Small Bog Orchid, Habenaria obtusata, but we stayed confused because other manuals put it in Platanthera or in Limnorchis.

Lunched somewhat above treeline, looking in vain for the Chionophila. Walked out on Marmot Point, in light rain. Clouds coming in. Drove on up and back Trail Ridge Road.

July 19-21, 2004. Mirror Lake.

Monday, July 19. Backpacked in to Desolation Camp, arrived about 2.00 p.m. Left home and didn't have far to go for wildlife: two deer in Bob Martin's yard at the corner! Hiked back to the Poudre River and up toward Chapin Creek a mile or so. Several extensive beds of Sphagnum in the wet areas in here. Dipper. Returned, napped, and cooked supper in and out of rain. Moose and calf at the Corral Creek Ranger station area. Nice Fringed Gentian, Gentianopsis thermalis, in the wet areas. Doe with two spotted fawns in the Hague's Creek open area after supper.

Tuesday, July 20. Hiked up to Mirror Lake, did the climb o.k., and lunched at the lake first in good sunshine but then storm clouds began to gather. Twayblade orchid, Listera cordata, about twenty minutes on the return trip, nice patch. I saw them last week with Fred Johnson, so this is a good year for them. One pygmy bitter-root plant, Lewisia pygmaea, in good blossom, only one seen. Hiked back in light rain, but did o.k. in the green poncho. Napped and cooked supper in a break in the rain. Feet did o.k.

Wednesday. At rising, lovely broken mist hanging over the valley and peaks nearby in good morning sun. Quite aesthetic. Hiked out in good sunshine, out about 11.15. Lunched at Big South Camping area, at Big South Trail, with too many mosquitoes. About 16 miles of walking, though only about 5 carrying the pack.

August 8, Sunday. Roger's Pass, below James Peak, in James Peak Wilderness. With Phil Cafaro and Pat McKee. Left early, picked up Cafaro, some breakfast at Pat's home overlooking Lake Sherwood. Then Boulder, Nederland, Rollinsville, and to East Portal. Rollins Pass road closed at Gunsight Tunnel.

Steady climb through rich woods. Cornus canadensis, only one seen. Decent trail, good bridges in lower trail, no stream crossing to worry about, though a few wet areas. Upper trail with some blowdowns. Trail to Arapaho Lakes and Forest Lakes marked with sign about 1 mile in at former cabin area. Comes out in alpine a little below Rogers Pass Lake, lovely setting. Then steeper climb and brief flats overlooking nearby Heart Lake. This seems to be the way most people were reaching Heart Lake, tho there may be a lower trail in. Magnificent wildflowers.

Then hard climb to the top but reasonably decent switchbacks, reached Rogers pass about 1.00, four hours in. Lunched there, looked around. James's Peak is nicely seen from here, as is Parry's Peak. Talked to only one teenager who had been up James Peak (from maybe 50 people seen during the day). Trail goes along the mid flank and it is a rock scramble up from there.

Returned, slipped on steep gravel once coming down the switchbacks. Then a steady plod back. About a mile and a half from the trailhead I fell again, this time more inexcusably and a rougher fall. Bumped my knee but walked out without trouble. Out at 6.20. This was all the hike I wanted, 12 miles, and 3-4 of it in high alpine. Roger's Pass is 11,860, though the top out is a hundred feet higher than that. East Portal is 9,211, so that is 2,700 feet of climbing. And,

as usual, I was the oldest person I saw.

Made the hike in the low-cut Cabelo's shoes, as I put in the wrong boots by accident, but they did very well.

Two nice foxes seen well posed in a cabin yard driving out. Supper at a German restaurant in Nederland. Home after 10.00 p.m., later than I like.

Sept. 16, 04. Two deer, young bucks, in a field right at the road on Prospect St., driving out for a 7.00 a.m. Think Tank Meeting with Mike Liggett's Poudre R1 School District group.

Nice weather thru here, with major hurricanes repeatedly in the East.

Sept. 19, 04. Sunday. Pingree Park and Mummy Pass Trail, with William Grey, University of Queensland, Australia, and Pandurang (=Pandu) Hegde, Appiko/Chipko Movement, India. Cafaro, and two graduate students. Left about 7.30, nice day, drove to Pingree. On trail about 9.30 a.m., and steady climb. Reached the high point a mile before the pass about 12.00 p.m., with about all the climbing I wanted. Nice day but before lunch was over some threatening rain.

Descent, first in light rain, then clearing. Out about 5.00 p.m. Seemed slower and longer than before. But 12 miles roundtrip so this is no small hike.

Sept. 20, Monday. Spent the day in Rocky Mtn National Park with Grey and Pandu (see previous entry). Drove up Trail Ridge, first with striking clouds, though misty, and then soaked in. Returned, lunched, weather clearing and some stunning clouds. Coyote on Trail Ridge, above timberline, nicely seen. Rode shuttle to Bear Lake and hiked to Nymph Lake, but running out of time. Returned and watched elk in Moraine Park, bulls with their harems as close in to the road as I recall. One great bull with about ten ewes bugling marvelously only twenty feet away. Supper in Estes Park in pouring down rain.

Sept. 23-26. Paris, UNESCO event on environmental ethics. Spent Saturday touring with Robin Attfield and Johan Hattingh. Did the Louvre: Venus de Milo, Winged Victory of Samothrace, Mona Lisa, and others. Lots of Leonardo da Vinci: Virgin of the Rocks, and Virgin, Child, and St. Anne. Then went to Musée d'Orsay: Lots of Impressionism, Post-Impressionism: Caillebotte, Cézanne, Degas, Douanier Rosseau, Gauguin, Manet, Monet, Renoir, Toulouse-Lautrec, Van Gogh, Whistler (inc. "Whistler's Mother"). Pre-Impressionism: Millet, "The Angelus," and "Three Women Gleaning."

Lunched at sidewalk café with Cathedral of Notre Dame in sight, nice lunch, Colorado blue sky overhead, good day. Then went to Centre Pompidou, modern art: Picasso, Matisse, Miro, and some things by Le Corbusier, an architect. Returned about six on Metro.

Sunday, flew home.

October 2-5, 2004. Orange City, Iowa, and Northwestern College.

Oct. 2, Saturday, flew to Sioux Falls, SD. Met by Laurie Furlong, biology, Northwestern College, and her husband Jamie. Drove to Blue Mounds State Park, Luverne, MN. About 30 bison seen in fields. Famous for a pink quartzite, outcropping, and covered often with a grey lichen, quite attractive. Walked out on tallgrass prairie half an hour. Shrub here a plum, Prunus americana. Green ash. Fraxinus pennsylvanica.

Orange City is almost directly north of Omaha, several hours drive, and technically a little west of Omaha. In a corner with Minnesota, South Dakota, Iowa, and Nebraska not far away. Huge cornfields, miles and miles of them, not yet harvested. Machines will come thru after it dies and take grain out of ears in the field, chop off corn about a foot high, and cut up the stalks for silage. Corn all fed to stock. Excellent soil, Iowa's famous black gold, often seemingly a loess from glacial dust, but I couldn't get too clear about this.

Oct. 3, Sunday. Went to a Reformed Church in America. Very Dutch community. Then on grasslands the rest of the day with Laurie F., and Glen D. Hegstad, former biology professor at the college and good on grasslands. Drove to a college prairie restoration project, half an hour west of town. Really a prairie creation project, as this was once farmland, and they started re-creating the prairie about six years ago.

Big bluestem, Andropogon gerardii. The dominant grass and shoulder high, even head high at times.

Indian grass, Sorghastrum nutans. Also one of the main grasses here.

Canada Wild rye, Elymus canadensis.

Switch grass, Panicum virgatum.

Side-oats Grama, Bouteloa curtipendula.

Purple coneflower, Echinacea sp.

Pale coneflower, Gray-headed coneflower, Prairie coneflower. Ratibida pinnata.

Wild bergamot. Bee-balm. Monarda fistulosa.

Stiff goldenrod. Rigid goldenrod. Solidago rigida.

Black-eyed Susan. Rudbeckia hirta.

New England Aster. Aster novae-angliae.

Lewis' Flax, Linum perenne var. lewisii.

Blanketflower. Gaillardia pulchella.

Drove on to Hawarden, on boundary with South Dakota. Then to Oak Grove State Park. Deciduous forest on a bluff overlooking the Big Sioux River.

Scots and/or Austrian Pine, planted here.

Smooth Sumac, Rhus glabra, nice red fall color

Basswood, Tilia americana

Bur Oak, Quercus macrocarpa

Gray Dogwood, Corunus foemina

Snowberry, Symphoricarpos occidentalis. They call it Wolfberry.

Solomon's Seal, Pogonatum biflorum

Lead plant, Amorpha sp. in Fabaceae

Compass plant, Silphinium laciniatum. With huge leaves that orient in a north south direction. Composite.

Black locust

Walnut

New Jersey tea, Ceanothus  
Bittersweet, Celastrus, with nice bright orange fruit  
Wahoo bush, Euonymus, striking four-lobed fruit.  
Hackberry, Celtis  
Stinging nettle, Urtica dioica  
Silver maple  
Box-elder  
Kentucky coffee-tree, Gymnocladus

returned and went to Puddle Jumper, an old railroad bed (railroad was known as Puddle Jumper) and walked the grasses to each side a bit.

Blazing star, Liatris

Dinner in home of Laurie and Jamie Furlong, a homestead, 7 acres, with endless fields of corn all around. Also soybeans.

Oct. 5, Tuesday. Flew home.

Oct. 9-12, 2004. University of North Texas, Denton.

Oct. 9, Saturday. Flew to Dallas/Ft. Worth, picked up by Gene Hargrove. Rainy.

Oct. 10, Sunday. Fort Worth Nature Center and Refuge. Walked about 2 ½ miles on trails, thru Post Oak forests (Quercus stellata), solid, stubby branched, some grasslands, and along a river (dammed up lake) edge. Along the river edge, lots of Inland Sea Oats, Trumpet Vine, Campsis radicans, [Coastal/southern] live oak, Quercus virginiana, covers eastern U.S. coasts and somewhat inland, red oak. Texas has more oaks, 44 species, than any other state.

Went to Amon Carter Museum, for photography display of Lewis and Clark Trail, what it was then and what it looks like now, by Brent Phelps, teaches art and photography, Univ. North Texas. Also there lots of Remington, Russell, and other western artists.

Oct 11, Monday, speech. Often drizzling rain or mist the whole time I was here. Oct. 12, flew home.

October 22, Friday - October 27, Wednesday. Yosemite, California State Bar Environmental Law Conference, and University of Virginia

Oct. 22, Friday, flew to Fresno, picked up car and drove north 60 miles to southern end of Yosemite at a "village" (couple stores and motels) called Fish Camp. Fresno flat and dry, some olive trees, more vineyards. Landscape then becomes mountainous, forested, first with many grayish oaks of some sort. Then other conifers, especially Ponderosa Pine, which is taller here than in Colorado. Eventually got into considerable snow in the forest (good dry road) that fell last weekend, a little early for their winter. Checked in at Tenaya Lodge, huge lodge, quite nice, just south of town. Tenaya was an Indian chief.

Drove into the park, seeking information on the Wawona Tree, and found that it was in the Mariposa Grove, at my end of the park, but snow had closed the road in, 2 miles. So I drove north into Yosemite Valley, 35 miles. Nice drive, overcast skies. One quite nice buck seen well

on open area at edging.

Reached the tunnel at the west end of the valley, and exited it for confront a powerful, stunning view from overlook at end of tunnel.

Perfect lighting toward sunset. El Capitan with a bright shrouded summit right at the top, though the full face could be seen. Some blue sky above that. Half dome perfectly lighted, with considerable snow in the upper one third. A small cloud about two thirds the way up hanging on the face. Bridal Veil Falls in soft sunlight the length of the falls, with shadows surrounding on both sides and above and below. Cathedral Rocks nicely seen, mostly dark in nearer foreground. Cloud's Rest (nearly 10,000 feet) quite covered with snow in the distance. Fabulous.

Drove on into the valley, picked up a sandwich and ate it looking at Half Dome in setting sun, the small cloud still hanging on its face. Upper and Lower Yosemite Falls were good, good water, though on the shady side of the valley.

Returned in the dark.

Oct. 23, Saturday. 8.00 a.m. spoke to the California Bar Association, Environmental Law Conference. Several hundred present.

Drove into the park and hiked up the paved road, with little snow on it, to the parking lot I could have driven to a couple days ago. Gift shop here, surprisingly, open. Then hiked the tram route through the Mariposa Grove and eventually made the now fallen Wawona Tree. There are both footpaths and the tram route, which is the old road I drove the Bel-Air Chevrolet on in 1961. Now only golf-cart like trams ride over it in summer, shut down now. Passed lots of great trees (Bachelor and Three Graces, then the Grizzly Giant and the California Tunnel Tree, these two quite close to each other. Grizzly Giant is estimated to be 2,700 years old, huge circumference, though not as tall as others.

California Tunnel tree was cut in 1895 because you couldn't get to the Wawona Tree in winter (cut in 1881). It is not much bigger than a big house door, though there seemed to be a horse and buggy driven through it. In later years it was never open as a tunnel tree to drive through. I walked through it.

Continued, with increasing snow on the road, walking in tracks where some truck had been up the road, dry or wet, often narrow, with 4-6 inches of snow on the road (and with less than adequate footwear, since I had only my regular shoes). Passed "The Faithful Couple" two giant sequoias with a common base. Passed Mariposa Tree, now with a narrow track, almost like walking a balance beam. Reached the Museum, 6-8 inches of snow everywhere, and took off, now on the snow, on a foot trail. .3 mile of not-easy walking and I reached the now-fallen Wawona Tree. Old road covered with snow and I could figure out about how the tree once stood when I drove through it. Elevation here 6,600 ft.

The tree fell in the winter of 1968-69 under a heavy load of snow and without a human witness. The tunnel was 10 feet high and 26 feet long. It was cut in 1881.

Lunched there, on some steps as the trail reaches the old road. Some good sun, and then more overcast. This is 2.3 miles from the Gift Shop, Tram Start area, so 4.3 miles from where I parked the car. Returned steadily, with good break outside the Gift Shop. 8.6 miles and

enough hike, under the conditions. But my feet were in good shape.

Wawona is thought to be an Indian word for "big tree," from the call of the owl that lived in the big trees and was thought to be the spirit of the trees.

"Mariposa" is Spanish for "butterfly" and was the name of an area land grant.

Returned to Lodge, napped, and went to big banquet. Four deer, doe and three yearlings enroute. I was at table with Joe Brown, former governor of California and now mayor of Oakland, and the speaker was Margie Richard (pronounced ree-chard), black activist with a Cancer Alley protest against Shell in New Orleans area, intense speaker. My main host here, James Pierce.

Went to bed in good rain and wondering if it would turn to snow.

Oct. 24. Woke 5.15 a.m. apprehensive about weather. But it was raining, now harder, but thank goodness not snowing. Left 6.30 in pitch dark and pouring down rain. It doesn't rain like this in late October at 5,000 feet. Drove south to Fresno into daylight and drier weather, though quite overcast.

Reached Charlottesville, VA about 11.00 p.m.

Oct. 25, Monday. At University of Virginia, Charlottesville. Tour of the UVa grounds with Mary Hughes, landscape architect. Gardens behind each of the faculty houses on "The Lawn." They only use plants native to Virginia or known to Thomas Jefferson. Earlier the day was overcast, but now delightful in fall colors and evening sun.

Oct. 26, Tuesday. Tour of Monticello with George Sauer and Cathy Clary. She was once a horticulturalist at Monticello. Fine weather and she was quite knowledgeable about the gardens. They are constantly attempting to restore them to what they think they were in Jefferson's day, and they have a pretty good idea from his records. Walked around in some of his woods a bit. Periwinkle very invasive here.

Oct. 27, Wednesday. Flew home after mid-day lecture at UVA Med School. Main host Willis Jenkins.

Nov. 4, 2004. Leaving home early a.m., still quite dark, for Gunnison and Western State College. Conjunction of Mars and Jupiter quite striking in the early morning sky. On Nov. 5 the two are to be less than one degree apart.

Nov. 23-26, 2004. Claire and Antoinette Smiley here from Uniontown, Alabama and Norfolk, Virginia. Drove up Poudre Canyon morning of Wednesday, Nov. 24, in just enough snow over the rocks to make it quite spectacular. Rescued a "damsel in distress" at Greyrock, whose car was stuck in the snow where she pulled to the side of the road in snow. Drove up to about Narrows Campground. Returned and went to Colorado Division of Wildlife Research facility to see the three mountain lions, who performed quite well for us. We were essentially nose to

nose with them (through the mesh wire fence) and they purred loudly. Got giant cinnamon buns at Vern's. Took them to Jax Farm store.

Nov. 28 and following week. Snowed 12 inches on Sunday and snow was around all week. Tuesday, Nov. 30. 1 degree F. on the back porch.

Dec. 6. Jane's foot surgery; she will be off her left foot six weeks to two months.

Dec. 15-17. Red fox appears in the back yard just outside the bedroom window, sleeping in the chips below the pine tree. Regularly there coming and going off and on for the last three days. Curls up with its head in its tail, or sometimes just rolled over sideways. Lovely color and fur.

Dec. 17. Ran 5 miles to celebrate my 72 birthday, which was almost a month ago, but with the snow cover I couldn't find a slot in which to run it. Not very fast maybe, but at least I ran (or jogged) it without mishap and without adverse affect.

Dec. 24. Minus 3 degrees last night, and the fox returned this morning, after being gone a few day, sleeping surrounded by a little snow, though he had kicked out a little bed.