A Look at Nature
Anomalies and Abnormalities

Around almost anyplace one can find little things which contribute some unique and special quality. The uniqueness of our surrounding land is often the result of one of several ecological processes: a relict from a long ago different climate that is now holding on in a few favorable sites; an ecosystem, say a forest, that has been stable for hundreds of years, providing unique habitat resources that can only be taken full advantage of by special critters; or a recent disturbance, such as fire, or landslides, which can create a favorable site for organisms needing less competition or more openness.

In and around Eldora we have a number of relicts from earlier geologic periods. Balsam poplars (*Populus balsamifera*) are in the same genus as cottonwoods and aspen; they are found in town along the creek between 6th and 7th streets.. They are relicts of the Pleistocene Epoch (10,000 to 2 million years ago), a time of a much wetter and colder climate. During this glacial era much of the valley floor was covered with ice, however interglacial periods saw the development of plants. Balsam poplars are some of the dominant trees found along streams in Canada and Alaska.

Speaking of the Ice Age, it should be noted that Arapaho Glacier, found on the east flank of South Arapaho Peak, is considered to be the most southern active glacier in the Southern Rocky Mountains. It persists because the east-facing aspect is sheltered from most direct sunlight while receiving large accumulations of windblown snow. St. Mary=s Glacier, found to the south of James Peak, is not considered to be an active glacier.

Another relict, but probably from a drier period, is a stand of bristlecone pine trees(*Pinus aristata*). They are found west of Caribou just north of the saddle between Klondike and Bald mountains overlooking the Fourth of July Valley. Like limber pine (*Pinus flexilis*), bristlecone has a cluster of 5 needles. But the bristlecone needles are shorter, sticky to the touch, and covered with white flecks of resin (sort of like dandruff), and the cone-scales are bristle-tipped (hence, their name). This species of bristlecone is different from its better known relative (Great Basin bristlecone, *Pinus longaeva*) found to the west in California, Nevada, and Utah. Our local stand of bristlecone is the farthest northern extent of the tree known in the Southern Rocky Mountains. How did it get here? It probably came in during a drier period. Did it extend its range north during the so-called Altithermal of some 5,000 - 7,500 years ago when the climate was much warmer than today? Or were the seeds brought in by Clark=s nutcrackers, birds known for flying long distances to obtain and cache seeds? We may never know. But it is likely that the trees standing at this site are very old.

The Caribou area, encompassing Caribou Flats, Caribou Townsite, and Caribou Park, has a number of unique attributes. On Caribou Flats sits one of the largest stands of limber pine in the county. Limber pine is often a pioneer tree species for windy, dry, and rocky sites with poor soils. Early settler accounts and photos indicate that Caribou Flats was denuded of trees when the Caribou silver mines were going strong in the 1870s and 80s. And, if you have ever been up there in the winter, yes there is a bit of wind!

There are several notable rare species found in the Caribou area. A number of butterfly species which are common in the Canadian arctic, find their southern extent in the Rocky Mountains. One such species that has been seen at Caribou is the jutta arctic (*Oeneis jutta*), a brown butterfly with yellow-orange bands and black spots. Several species of moonwort (*Botrychium* species), small plants found in disturbed areas, are also present but hard to see due

to their diminutive size. Finally, some of the wetlands associated with Caribou Creek contain populations of boreal toads (*Bufo boreas*), a Colorado endangered species which is also under consideration for Federal listing. Last fall=s 4-wheel drive Amudfest@ impacted a tributary stream and wetland which might have contained toads. Boreal toads are also present at Lost Lake (part of a reintroduction program), and there was an historic population in the Lake Eldora/Buckeye Basin wetland complex.

Some our most interesting ecosystems are old-growth forests. They rely on long-term stability. The best local old-growth forests are found in high-elevation valleys in the Indian Peaks Wilderness where stand-replacing fires only occur on average every 400 - 500 years. The subalpine forests of Engelmann spruce (*Picea engelmannii*)and subalpine fir (*Abies lasciocarpa*) below Woodland Lake, along Jasper Creek, and near Chittenden Mountain are some of our best local examples of old-growth. Many trees exceed 40 inches diameter, and many large-diameter standing dead trees and fallen logs are present. While tree ages are unknown, it is probable that some may exceed 400 years of age! These components provide niches for many habitat specialists, including red-backed vole, boreal owl, three-toed woodpecker and pine marten. Three-toed woodpeckers primarily feed on Engelmann spruce beetles, which are generally found in trees exceeding 200 years of age. Old-growth forests are also great places to find mushrooms; red-backed voles favor mushrooms for food, while boreal owls favor eating red-backed voles.

Some of the oldest trees in our neck of the woods are ponderosa pines (*Pinus ponderosa*). Those found on open south-facing hillsides or rocky slopes have been able to survive the infrequent fires of our elevation. The oldest known living ponderosa pine tree in the Front Range is found several miles north of Nederland, a little off the Peak-to-Peak Highway; a core taken from the tree at breast height produced an age of 779 years! Add in an additional 20 to 30 years to get to the height of the coring, and we have an age over 800 years; it started as a seedling sometime around 1200 AD! Recent tree age work on Caribou Ranch found living ponderosa pines of 425 years of age and many others over 200 years old. In our valley, it is likely that some of our oldest trees, both ponderosa pine and Douglas fir (*Pseudotsuga menziesii*), are located on Eldorado Mountain, particularly on the open hillside just before the switchback in the jeep road to Caribou.

I will close with the critter that is the most unique to our home in the Southern Rocky Mountains. The brown-capped rosy-finch is endemic to these mountains, meaning this is the only place in the world that it is found. We know them best from the winter, when they come down off the windy, cold tundra in large flocks (sometimes mixed with gray-crowned rosy-finches who come from farther north to winter here) to frequent our feeders. But when spring comes, they return to the land above the trees to breed. They will nest in loose colonies which are located in crevices of rock faces, such as on the east flank of South Arapaho Peak. Their mating habits are best described as Aladies choice.@ The female rosy-finch determines the territory and nest site. Males generally outnumber females by a 6:1 ratio; several males will display in front of a single female and she chooses one for mating and bonding throughout the nesting season. The un-chosen males spend the breeding season fighting with other males; maybe they are a little frustrated.

So when you see the flocks of rosy-finches in the winter flying around town, you are seeing an animal that few others in the world will ever set their eyes on. Truly one of the little things that make this a special place.

Dave Hallock